Considered 8/27/02 mcb

verly Shears

Access DB# 66522

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: My-Chau Tram Examiner #: 78933 Date: 5/13/02
Art Unit: 1641 Phone Number 305-6999 Serial Number: 09/874,091
Mail Box and Bldg/Room Location: CM1, 8A16 Results Format Preferred (circle): (PAPER) DISK E-MAIL
7E12

If more than one search is submitted, please prioritize searches in order of need. ME

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Microarrays for Performing Proteomic Analyses

Inventors (please provide full names): Deborah Chargych, Eric Beausoleil, and Ronald N. Zuckerman

Earliest Priority Filing Date: 6/5/2000

Point of Contact:
Beverly Shears
Technical Info. Specialist
CM1 1E05 Tel: 308-4994

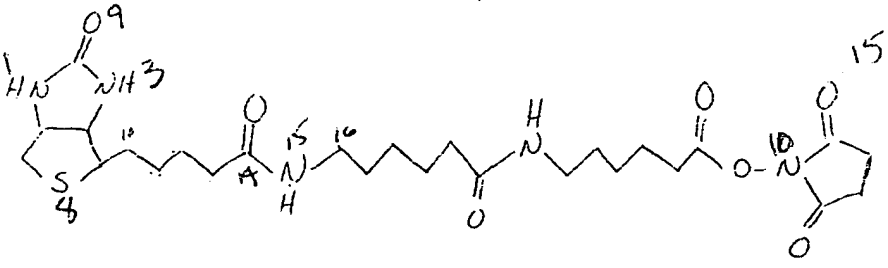
***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Mrs. Shears

I'm searching for a protein chip with three segments.
1) anchoring segment 2) linker segment 3) peptidomimetic segment (see fig. 3 enclosed).

Please perform the following searches:

1) Inventors search
2) Claim 17 & 19 (attached)
3) Structure search of fig. 3 & 2
4) Structure search of NHS-LC-LC-biotin which is



(An abstract is also)

Thank-you

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MAY 13 2002
(STIC)

17. An array of protein-binding agents stably associated with the surface of a solid support, said array comprising:

a solid support having a substantially planar aluminum surface coated with a maleimide-functionalized aminothiol or aminosilane;

a plurality of different protein-binding agents bound to said substrate, each of said protein-binding agents comprising,

a thiol substrate anchoring segment stably bound to the maleimide-presenting substrate surface,

a peptoid protein-binding segment, and

an aliphatic linker segment connecting and separating the anchoring and peptidomimetic segments.

18. The array of claim 17, wherein said maleimide-functionalized aminothiol or aminosilane comprises a spacer.

19. An array of protein-binding agents stably associated with the surface of a solid support, said array comprising:

a solid support having a substantially planar aluminum surface coated with an avidin-functionalized aminosilane or aminothiol;

a plurality of different protein-binding agents bound to said substrate, each of said protein-binding agents comprising,

a biotin substrate anchoring segment stably bound to the avidin-presenting substrate surface,

a peptoid protein-binding segment, and

an orthogonal peptide linker segment connecting and separating the anchoring and peptidomimetic segments.

MICROARRAYS FOR PERFORMING PROTEOMIC ANALYSES

ABSTRACT OF THE DISCLOSURE

Provided are peptidomimetic protein-binding arrays, their manufacture, use, and application. The protein-binding array elements of the invention include a peptidomimetic segment linked to a solid support via a stable anchor. The invention contemplates peptidomimetic array element library synthesis, distribution, and spotting of array elements onto solid planar substrates, labeling of complex protein mixtures, and the analysis of differential protein binding to the array. The invention also enables the enrichment or purification, and subsequent sequencing or structural analysis of proteins that are identified as differential by the array screen. Kits including proteomic microarrays in accordance with the present invention are also

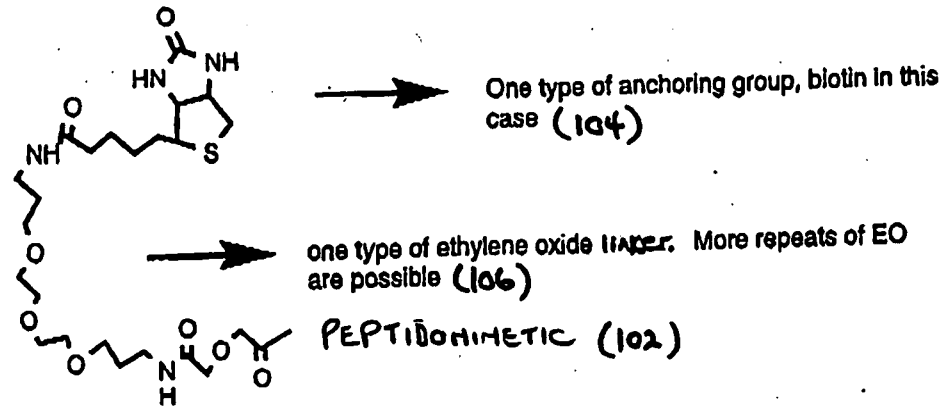


FIG. 1C

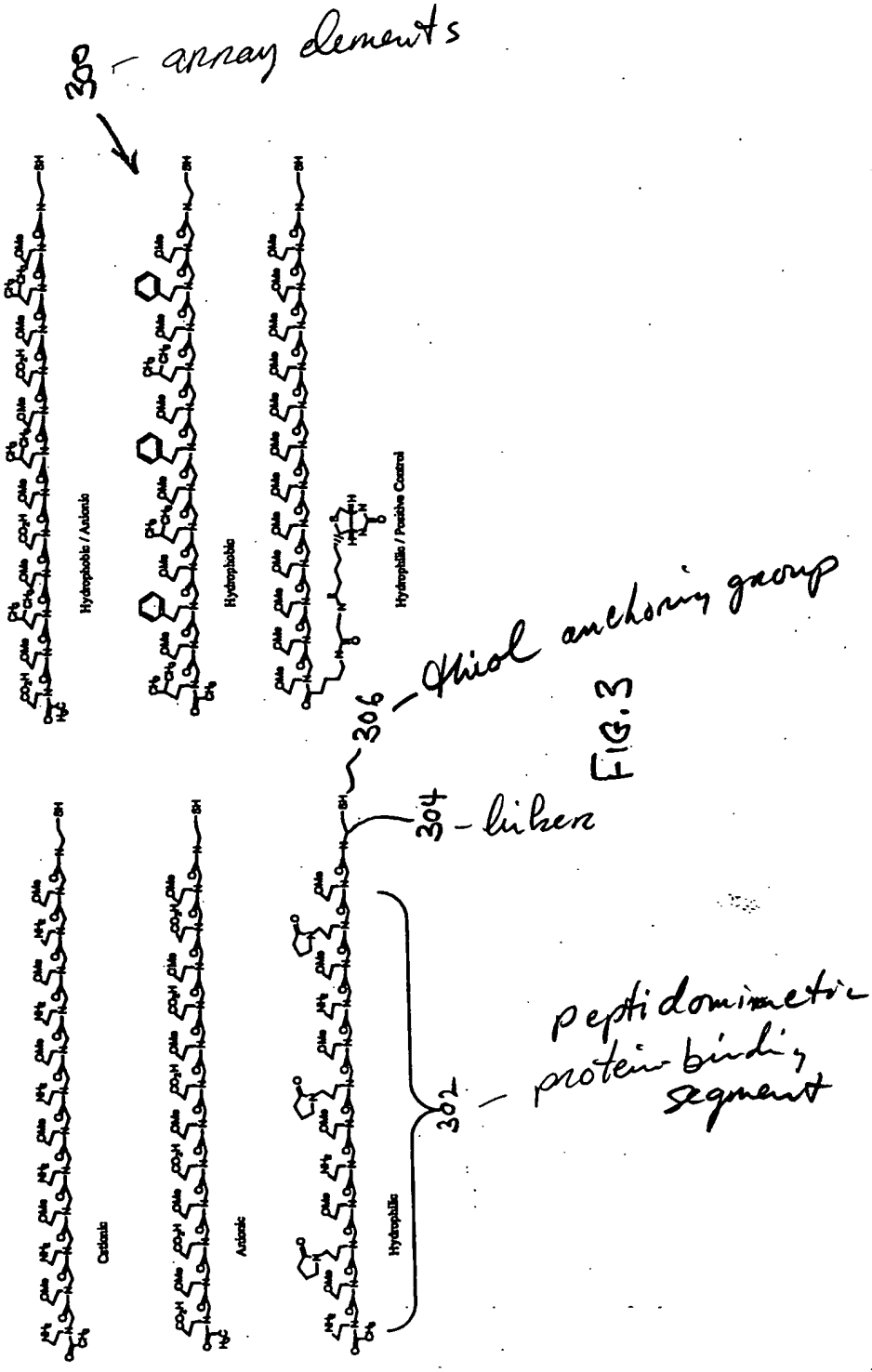

300 - array elements
Hydrophobic / Anionic
Hydrophobic
Hydrophilic / Positive Control
306 - thiol anchoring group
304 - linker
peptidomimetic protein binding segment
302 -
Cationic
Anionic
Hydrophilic

FIG. 3

([redacted] ENTERED AT 11:18:44 ON 22 MAY 2002)

L1 [redacted] STR

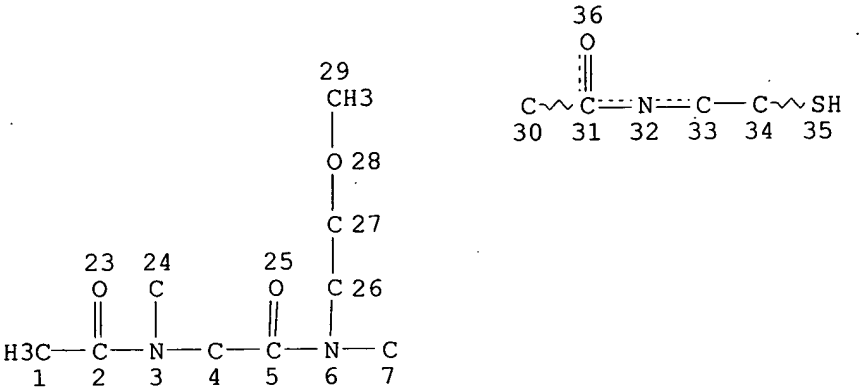


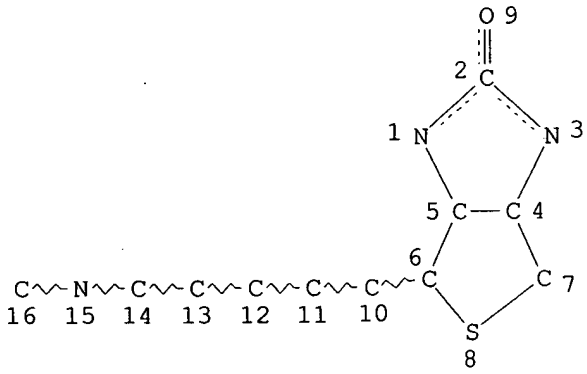
Fig. 3
Cationic
Anionic
Hydrophilic
Hydrophobic/Anionic
Hydrophobic

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

L2 STR



NHS-LC-LC Biotin
Fig 1C
Fig 3 (hydrophilic/pos. ctrl.)

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE

[redacted] 3677 SEA FILE REGISTRY SSS FUL L1 OR L2 ← Temp saved 7 days

100.0% PROCESSED 4431 ITERATIONS 3677 ANSWERS
SEARCH TIME: 00.00.03

[redacted] ENTERED AT 11:25:11 ON 22 MAY 2002

Searcher : Shears 308-4994

L5 2127 S L4 OR L4/D
L6 39 S L5 AND ?ARRAY?

=> sel hit l6 1-39 rn
E1 THROUGH E79 ASSIGNED

L6 ANSWER 1 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:332378 CAPLUS
TITLE: Immobilization of biopolymers to aminated substrates by direct adsorption and assay article so prepared for use in biopolymer detection
INVENTOR(S): Rampal, Jang B.; Matson, Robert S.
PATENT ASSIGNEE(S): Beckman Coulter, Inc., USA
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002034950	A2	20020502	WO 2001-US43046	20011022

W: JP
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR

PRIORITY APPLN. INFO.: US 2000-604701 A 20001023

AB An assay article for detection of biopolymers contained in a sample is described. The assay article includes a substrate and a biopolymer directly adsorbed on the surface of the substrate. A plurality of biopolymers may be adsorbed on the surface of the substrate to form an **array**. Also disclosed is a method of making the assay article. In the preferred method, an aminated polypropylene substrate is used. A biopolymer is contacted with the aminated substrate under a condition sufficient for direct adsorption of the biopolymer on the surface of the substrate. A method of detecting a target biopolymer contained in a sample is also disclosed. In this method, a substrate is contacted with either a probe or target biopolymer under a condition sufficient for a direct adsorption of either the probe or target biopolymer on the substrate to form a probe assay article or a target assay article. Then, the probe assay article is contacted with the target biopolymer, or the target assay article is contacted with the probe biopolymer under a condition that allows the formation of a probe-target complex. Finally, the complex is detected and the presence of the complex is used as a measurement for the presence or the amt. of the biopolymer target contained in the sample. **Arrays** of cDNA and of human IgG were made on aminated polypropylene slides and films, resp., and used in hybridization and immunoassays.

IT **115416-38-1**, 5-(Biotinamido)pentylamine
RL: ARU (Analytical role, unclassified); DEV (Device component use); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(marker; immobilization of biopolymers to aminated substrates by direct adsorption and assay article so prepd. for use in biopolymer detection)

L6 ANSWER 2 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:293894 CAPLUS
DOCUMENT NUMBER: 136:320313
TITLE: High throughput or capillary-based screening of libraries of compounds for biological activities
INVENTOR(S): Short, Jay M.; Keller, Martin; Lafferty, William Michael
PATENT ASSIGNEE(S): Diversa Corporation, USA
SOURCE: PCT Int. Appl., 229 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002031203	A2	20020418	WO 2001-US31806	20011010
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2001041333	A1	20011115	US 2000-738871	20001215
US 2002048809	A1	20020425	US 2001-790321	20010221
US 2002015997	A1	20020207	US 2001-894956	20010627

PRIORITY APPLN. INFO.:

US 2000-685432	A2	20001010
US 2000-738871	A2	20001215
US 2001-790321	A2	20010221
US 2001-894956	A2	20010627
US 2001-309101P	P	20010731
US 1997-876276	A2	19970616
US 1998-98206	A2	19980616
US 1999-444112	A2	19991122
US 2000-636778	A2	20000811
US 2000-687219	A2	20001012

AB Provided is a method of screening or enriching a sample contg. polynucleotides from a mixed population of organisms. The method includes creating a DNA library from a plurality of nucleic acid sequences of a mixed population of organisms and sepg. clones contg. a polynucleotide sequence of interest on an analyzer detects a detectable mol. on a probe or bioactive substrate. Individual members of the library can be sepd. and analyzed using an ordered **array** of fine capillaries that can be used to take up individual members of the library. The capillary **array** may contain up to 1 million members. Methods of analyzing biol. activities, such as enzyme assays or reporter gene expression, are described. The analyzer includes FACS devices, SQUID devices and MSC devices. The sepd. or enrich library can then be further process by activity based screening or sequence based screening. In addn., the enriched sequence can be compared to a database and to

identify sequences in the database which have homol. to a clone in the library thereby obtaining a nucleic acid profile of the mixed population of organisms.

IT **412319-47-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and reactions of; high throughput or capillary-based screening of libraries of compds. for biol. activities)

IT **412319-48-3**
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
(prepn. of, as assay substrate for esterases; high throughput or capillary-based screening of libraries of compds. for biol. activities)

L6 ANSWER 3 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:169108 CAPLUS
DOCUMENT NUMBER: 136:235824
TITLE: Surface treatment activation of glass substrates by oxidation with aldehyde groups and fixation of coupling agents for bio-chips micro-**arrays**
INVENTOR(S): Hevesi, Laszlo; Jeanmart, Laurent; Remacle, Jose
PATENT ASSIGNEE(S): A.S.B.L. Facultes Universitaires Notre-Dame de la Paix, Belg.
SOURCE: Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1184349	A1	20020306	EP 2000-870184	20000901
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
WO 2002018288	A1	20020307	WO 2001-BE59	20010406
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: EP 2000-870184 A 20000901

AB Micro-**arrays** for bio-ships are prepd. by submitting a solid support to oxidn. of chem. groups present on the surface to allow the formation of aldehyde groups on the surface covalently coupling upon the aldehyde group capture mols. designed for the detection, the quantification and/or the recovery of complementary target biol. or chem. mols. The covalent binding produces an **array** with a d. of at least 4, 10, 16, 20 or more discrete regions per cm2 of solid substrate surface, each of the discrete surface regions being bound with one species of capture mols.

IT **86303-26-6**, Biotin-16-dUTP
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(labeling; surface treatment activation of glass substrates by oxidn. with aldehyde groups and fixation of coupling agents for biochips **microarrays**)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:904732 CAPLUS
DOCUMENT NUMBER: 136:34316
TITLE: **Microarrays** for performing proteomic analyses
INVENTOR(S): Charych, Deborah; Beausoleil, Eric; Zuckermann, Ronald N.
PATENT ASSIGNEE(S): Chiron Corporation, USA
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001094946	A2	20011213	WO 2001-US18066	20010604
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002055125	A1	20020509	US 2001-874091	20010604

PRIORITY APPLN. INFO.: US 2000-209711P P 20000605

AB Provided are peptidomimetic protein-binding **arrays**, their manuf., use, and application. The protein-binding **array** elements of the invention include a peptidomimetic segment linked to a solid support via a stable anchor. The invention contemplates peptidomimetic **array** element library synthesis, distribution, and spotting of **array** elements onto solid planar substrates, labeling of complex protein mixts., and the anal. of differential protein binding to the **array**. The invention also enables the enrichment or purifn., and subsequent sequencing or structural anal. of proteins that are identified as differential by the **array** screen. Kits including proteomic **microarrays** in accordance with the present invention are also provided.

IT **380154-65-4**
RL: ARU (Analytical role, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process)

(**microarrays** for performing proteomic analyses)

L6 ANSWER 5 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:904009 CAPLUS
DOCUMENT NUMBER: 136:38877
TITLE: Production of surface-functionalized supports for use in **microarrays** for immobilizing biomolecules
INVENTOR(S): Pluester, Wilhelm; Koehn, Heinz-Gerhard; Ulbricht, Mathias
PATENT ASSIGNEE(S): Eppendorf Ag, Germany
SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001094032	A1	20011213	WO 2001-EP5173	20010508
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1204488	A1	20020515	EP 2001-949318	20010508
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRIORITY APPLN. INFO.: DE 2000-10028851 A 20000602
WO 2001-EP5173 W 20010508

AB In the title process, the surface of supports (esp. slides) are coated with initiators and contacted with a soln. of monomers contg. binding sites for biomols. (probe mols.) under conditions such that the monomers bind to the support and are polymd., resulting in a structure of neighboring functional polymer chains. A silanized glass slide was dipped in a 0.1M acetone soln. of benzophenone for 15 min, rinsed, dried, placed in a soln. of 25 g acrylic acid/L H2O 1 mM in NaIO4, equilibrated for 15 min, exposed through the glass to UV light, left for 15 min, washed, and dried to give a slide with a surface bearing CO2H groups. Use of these slides to immobilize N-(2-aminoethyl)biotinamide is exemplified.

IT **111790-37-5**
RL: DGN (Diagnostic use); BIOL (Biological study); USES (Uses)
(prodn. of surface-functionalized supports for use in **microarrays** for immobilizing biomols.)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:851808 CAPLUS
DOCUMENT NUMBER: 135:367666
TITLE: Nucleotide analogs and their use in labeling nucleic acids for hybridization assays
INVENTOR(S): McGall, Glenn; Barone, Anthony D.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 47 pp., Cont.-in-part of U.S. Appl. 2001 18,514.
CODEN: USXXCO

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2001044531	A1	20011122	US 2001-780574	20010209
US 2001018514	A1	20010830	US 1998-126645	19980731

PRIORITY APPLN. INFO.: US 1998-126645 A2 19980731
OTHER SOURCE(S): MARPAT 135:367666

AB Nucleic acid labeling compds. contg. heterocyclic derivs. are disclosed. The heterocyclic deriv. contg. compds. are synthesized by condensing a heterocyclic deriv. with a cyclic group (e.g. a ribofuranose deriv.). The labeling compds. are suitable for enzymic attachment to a nucleic acid, either terminally or internally, to provide a mechanism of nucleic acid detection. Thus, a no. of biotin- or fluorescein purine- and pyrimidine-.beta.-D-ribofuranoside analogs were prepd. These analogs were successfully incorporated into hybridization probes (using terminal deoxynucleotidyltransferase) and utilized in single nucleotide polymorphism geno-typing using micro-chip **arrays**.

IT **257297-78-2P 257297-78-2P 257297-78-2P**
257297-81-7P 257297-81-7P 257297-81-7P
257297-85-1P 257297-85-1P 257297-89-5P
257297-94-2P 257297-97-5P 257298-00-3P
257298-00-3P 257298-01-4P 257298-01-4P
373390-73-9P 373390-78-4P 373390-82-0P
373390-84-2P 373391-00-5P 373391-06-1P
373391-10-7P 373391-12-9P 373391-14-1P
373391-22-1P 373391-26-5P 373391-27-6P
373391-28-7P 373391-29-8P 373391-30-1P
373391-31-2P 373391-34-5P 373391-35-6P
373391-38-9P 373391-39-0P 373391-39-0P
373391-42-5P 373391-42-5P 373391-45-8P
373644-54-3P 373644-59-8P 373644-61-2P
RL: BSU (Biological study, unclassified); IMF (Industrial manufacture); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(nucleotide analogs and their use in labeling nucleic acids for hybridization assays)

IT **257297-85-1P 257298-00-3P 257298-01-4P**
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(nucleotide analogs and their use in labeling nucleic acids for hybridization assays)

IT **72040-63-2 89889-52-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(nucleotide analogs and their use in labeling nucleic acids for hybridization assays)

L6 ANSWER 7 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:773509 CAPLUS
DOCUMENT NUMBER: 136:163444
TITLE: A MEMS based amperometric detector for E. Coli bacteria using self-assembled monolayers
AUTHOR(S): Gau, Jen-Jr; Lan, Esther H.; Dunn, Bruce; Ho, Chih-Ming; Woo, Jason C. S.

CORPORATE SOURCE: Department of Biomedical Engineering, University of California at Los Angeles, Los Angeles, CA, 90095-1595, USA
SOURCE: Biosensors & Bioelectronics (2001), 16(9-12), 745-755
CODEN: BBIOE4; ISSN: 0956-5663
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We developed a system for amperometric detection of Escherichia coli (E. coli) based on the integration of microelectromech. systems (MEMS), self-assembled monolayers (SAMS), DNA hybridization, and enzyme amplification. Using MEMS technol., a detector **array** was fabricated which has multiple electrodes deposited on a Si wafer and was fully reusable. Using SAMs, a monolayer of the protein streptavidin was immobilized on the working electrode (Au) surface to capture rRNA from E. coli. Three different approaches can be used to immobilize streptavidin onto Au, direct adsorption of the protein on bare Au, binding the protein to a biotinylated thiol SAM on Au, and binding the protein to a biotinylated disulfide monolayer on Au. The biotinylated thiol approach yielded the best results. High specificity for E. coli was achieved using ssDNA-rRNA hybridization and high sensitivity was achieved using enzymic amplification with peroxidase as the enzyme. The anal. protocol can be conducted with soln. vols. on the order of a few microliters and completed in 40 min. The detection system was capable of detecting 1000 E. coli cells without polymerase chain reaction with high specificity for E. coli vs. the bacteria Bordetella bronchiseptica.

IT **129179-83-5 148913-95-5**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(MEMS based amperometric detector for E. coli bacteria using self-assembled monolayers)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:731080 CAPLUS
DOCUMENT NUMBER: 135:268152
TITLE: Use of liposomes or micelles carrying reporter groups and affinity labels for nucleic acids for detection of hybridization
INVENTOR(S): Bosio, Andreas; Scheffold, Alexander
PATENT ASSIGNEE(S): Memorec Medical Molecular Research Cologne Stoffel G.m.b.H., Germany
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001073117	A1	20011004	WO 2001-EP3702	20010331

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,

CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DE 2000-10016115 A 20000331
EP 2000-113549 A 20000627

AB The invention relates to the use of particles, liposomes or micelles, with signal-emitting characteristics and at least one group with an affinity for labeled nucleic acids, for detecting labeled nucleic acids in hybrids with immobilized probes. The invention also relates to supports contg. particles which have signal-emitting characteristics and at least one group with an affinity for marked nucleic acids, for detecting labeled nucleic acids. The reporter group may be a fluorescent dye and the affinity label may be an antibody against a hapten incorporated into the nucleic acid such as biotin or digoxigenin. The use of biotin and digoxigenin and biotin as haptens and Cy3 and Cy5 as reporter dyes is demonstrated.

IT **86303-25-5**, Biotin-11-dUTP
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(labeling of probes with; use of liposomes or micelles carrying reporter groups and affinity labels for nucleic acids for detection of hybridization)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:675161 CAPLUS
DOCUMENT NUMBER: 136:37868
TITLE: Novel nucleoside triphosphate analogs for the enzymatic labeling of nucleic acids
AUTHOR(S): Barone, A. D.; Chen, C.; McGall, G. H.; Rafii, K.; Buzby, Philip R.; Dimeo, James J.
CORPORATE SOURCE: Affymetrix, Inc., Santa Clara, CA, USA
SOURCE: Nucleosides, Nucleotides & Nucleic Acids (2001), 20(4-7), 1141-1145
CODEN: NNNAFY; ISSN: 1525-7770
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have evaluated several novel nucleotide analogs suitable for enzymic labeling of nucleic acid targets for a variety of **array**-based assays. Two new reagents in particular, a C4-labeled 1-(2',3'-dideoxy-.beta.-D-ribofuranosyl) imidazole-4-carboxamide 5'-triphosphate and an N1-labeled 5-(.beta.-D-ribofuranosyl)-2,4(1H,3H)-pyrimidinedione 5'-triphosphate , were found to be excellent substrates for labeling with terminal deoxynucleotidyl transferase and T7 RNA polymerase, resp.

IT **257297-85-1 380601-29-6 380601-30-9**

380601-32-1 380601-34-3
RL: BCP (Biochemical process); BIOL (Biological study); PROC (Process)
(prepn. of nucleoside triphosphate analogs for enzymic labeling of nucleic acids)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 10 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:507824 CAPLUS
DOCUMENT NUMBER: 135:104688
TITLE: Assays for detection of Bacillus anthracis
INVENTOR(S): Lee, Bruce Andrew; Flores, Becky Mar; Valkirs, Gunars Edwin
PATENT ASSIGNEE(S): Biosite Diagnostics, Inc., USA
SOURCE: PCT Int. Appl., 61 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001049823	A2	20010712	WO 2001-US358	20010104
WO 2001049823	A3	20011220		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-174901P P 20000106
AB This invention provides novel methods, reagents, and kits that are useful for detecting B. anthracis. The methods are based on the discovery of binding agents, including recombinant polyclonal antibodies, which bind to the surface **array** protein of B. anthracis.
IT **89889-52-1**, Biotin-XX-NHS **102849-12-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(assays for detection of Bacillus anthracis)

L6 ANSWER 11 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:321081 CAPLUS
DOCUMENT NUMBER: 136:80454
TITLE: Fluorescent microsphere-based readout technology for multiplexed human single nucleotide polymorphism analysis and bacterial identification
AUTHOR(S): Ye, Fei; Li, May-Sung; Taylor, J. David; Nguyen, Quan; Colton, Heidi M.; Casey, Warren M.; Wagner, Michael; Weiner, Michael P.; Chen,

Jingwen
CORPORATE SOURCE: Department of Genomic Sciences, Glaxo Wellcome Research and Development, Research Triangle Park, NC, 27709-3398, USA
SOURCE: Human Mutation (2001), 17(4), 305-316
CODEN: HUMUE3; ISSN: 1059-7794
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Large-scale human genotyping requires technologies with a minimal no. of steps, high accuracy, and the ability to automate at a reasonable cost. In this regard, we have developed a rapid, cost-effective readout method for single nucleotide polymorphism (SNP) genotyping that combines an easily automatable single-tube allele-specific primer extension (ASPE) with an efficient high throughput flow cytometric anal. performed on a Luminex 100 flow cytometer. This robust technique employs an ASPE reaction using PCR-derived target DNA contg. the SNP and a pair of synthetic complementary capture probes that differ at their 3' end-nucleotide defining the alleles. Each capture probe has been synthesized to contain a unique 25-nucleotide identifying sequence (ZipCode) at its 5' end. An **array** of fluorescent microspheres, covalently coupled with complementary ZipCode sequences (cZipCodes), was hybridized to biotin-labeled ASPE reaction products, sequestering them for flow cytometric anal. ASPE offers both an advantage of streamlining the SNP anal. protocol and an ability to perform multiplex SNP anal. on any mixt. of allelic variants. All steps of the assay are simple addns. of the solns., incubations, and washes. This technique was used to assay 15 multiplexed SNPs on human chromosome 12 from 96 patients. Comparison of the microsphere-based ASPE assay results to gel-based oligo-nucleotide ligation assay (OLA) results showed 99.2% agreement in genotype assignments. In addn., the microsphere-based multiplex SNPs assay system was adapted for the identification of bacterial samples by both ASPE and single base chain extension (SBCE) assays. A series of probes designed for different variable sites of bacterial 16S rDNA permitted multiplex anal. and generated species- or genus-specific patterns. Seventeen bacterial species representing a broad range of gram-neg. and gram-pos. bacteria were analyzed within 16 variable sites of 16S rDNA sequence. The results were consistent with the published sequences and confirmed by direct DNA sequencing.
IT **136632-30-9**, Biotin-11-dctp
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(fluorescent microsphere-based readout technol. for multiplexed human single nucleotide polymorphism anal. and bacterial identification)
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:318676 CAPLUS
DOCUMENT NUMBER: 135:77097
TITLE: From consensus sequence peptide to high affinity ligand, a "library scan" strategy
AUTHOR(S): Yeh, Ren-Hwa; Lee, Tae Ryong; Lawrence, David S.
CORPORATE SOURCE: Department of Biochemistry, Albert Einstein

College of Medicine of Yeshiva University, Bronx, NY, 10461-1602, USA
SOURCE: Journal of Biological Chemistry (2001), 276(15), 12235-12240
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A wide variety of proteins have been shown to recognize and bind to specific amino acid sequences on other proteins. These sequences can be readily identified using combinatorial peptide libraries. However, peptides contg. these preferred sequences ("consensus sequence peptides") typically display only modest affinities for the consensus sequence-binding site on the intact protein. In this report, we describe a parallel synthesis strategy that transforms consensus sequence peptides into high affinity ligands. The work described herein has focused on the Lck SH2 domain, which binds the consensus peptide acetyl-Tyr(P)-Glu-Glu-Ile-amide with a KD of 1.3 .mu.M. We employed a strategy that creates a series of spatially focused libraries that challenge specific subsites on the target protein with a diverse **array** of functionality. The final lead compd. identified in this study displayed a 3300-fold higher affinity for the Lck SH2 domain than the starting consensus sequence peptide.

IT **215876-01-0**
RL: PRP (Properties)
(prepn. of peptide libraries of high-affinity ligands using subsite substitution techniques)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 13 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:245716 CAPLUS
DOCUMENT NUMBER: 136:15761
TITLE: An improved procedure of electron microscopic in situ hybridization for detecting adenovirus DNA
AUTHOR(S): Goto, Toshiyuki; Kohno, Takashi; Nakano, Takashi; Fujioka, Yoshihiko; Morita, Chizuko; Sano, Kouichi
CORPORATE SOURCE: Department of Microbiology, Osaka Medical College, Osaka, 569-8686, Japan
SOURCE: Journal of Electron Microscopy (2001), 50(1), 73-76
CODEN: JELJA7; ISSN: 0022-0744
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Electron microscopic in situ hybridization (EM-ISH) is a useful method in detg. the localization of a specific nucleic acid at the ultrastructural level. Since the EM-ISH protocol includes many steps, no std. protocol for EM-ISH is available yet. In this study, we optimized quant. the crit. conditions with respect to embedding resin, nucleic acid labeling and hybridization reaction time, by using adenovirus-infected cells as the indicator cells. The optimal detection of an adenovirus-specific nucleic acid was obtained by overnight hybridization reaction on sections embedded in Lowicryl

K4M resin. Random-primed-labeled probes improved the reactivity. At least 60% of virus particles in paracryst. **arrays** was found to contain viral DNA. These **arrays** in adenovirus-infected cells are useful in evaluating quant. the efficiency of protocols of EM-ISH.

IT **86303-26-6**, Biotin-16-dUTP
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(improved procedure of electron microscopic in situ hybridization for detecting adenovirus DNA)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 14 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:221918 CAPLUS
DOCUMENT NUMBER: 134:249193
TITLE: Test kit and electrode sensor for multi-**array**, multi-specific electrochemiluminescence testing
INVENTOR(S): Wohlstadter, Jacob N.; Wilbur, James; Sigal, George; Martin, Mark; Guo, Liang-Hong; Fischer, Alan; Leland, Jon; Billadeau, Mark A.
PATENT ASSIGNEE(S): Meso Scale Technologies, LLC, USA
SOURCE: U.S., 103 pp., Cont.-in-part of U.S. 6,066,448. CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6207369	B1	20010327	US 1996-715163	19960917
US 6066448	A	20000523	US 1996-611804	19960306
ZA 9601925	A	19970805	ZA 1996-1925	19960308
US 6140045	A	20001031	US 1997-814085	19970306
WO 9812539	A1	19980326	WO 1997-US16942	19970917
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9746495	A1	19980414	AU 1997-46495	19970917
AU 743567	B2	20020131		
ZA 9708380	A	19980417	ZA 1997-8380	19970917
EP 944820	A1	19990929	EP 1997-945249	19970917
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001503856	T2	20010321	JP 1998-514984	19970917
KR 2000036176	A	20000626	KR 1999-702230	19990316
US 2001021534	A1	20010913	US 2001-771796	20010129

PRIORITY APPLN. INFO.: US 1995-402076 B2 19950310
US 1995-402277 B2 19950310

US 1996-611804 A2 19960306
US 1996-12957P P 19960306
US 1996-715163 A 19960917
WO 1997-US16942 W 19970917

AB Materials and methods are provided for producing patterned multi-**array**, multi-sp. surfaces for use in diagnostics. The invention provides for electrochemiluminescence methods for detecting or measuring an analyte of interest. It also provides for novel electrodes for ECL assays. Materials and methods are provided for the chem. and/or phys. control of conducting domains and reagent deposition for use multiply specific testing procedures. An ECL immunoassay for TSH used a composite electrode of EVA and carbon fibrils. A DNA hybridization assay was performed on a fibril-polymer composite.

IT **331412-53-4**
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(gel, TAG1-labeled avidin detection on; test kit and electrode sensor for multi-**array**, multi-specific electrochemiluminescence testing)

REFERENCE COUNT: 82 THERE ARE 82 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 15 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:129079 CAPLUS
DOCUMENT NUMBER: 134:350101
TITLE: A surface plasmon resonance **array** biosensor based on spectroscopic imaging
AUTHOR(S): O'Brien, M. J.; Perez-Luna, V. H.; Brueck, S. R. J.; Lopez, G. P.
CORPORATE SOURCE: Center for High Technology Materials/Department of Physics and Astronomy, The University of New Mexico, 87131, Albuquerque, NM, USA
SOURCE: Biosensors & Bioelectronics (2001), 16(1-2), 97-108
CODEN: BBIOE4; ISSN: 0956-5663
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have developed a multi-element transduction system which combines conventional SPR spectroscopy with one-dimensional SPR microscopy to create an effective platform for monitoring binding events on macro- or micro-patterned receptor **arrays** created on disposable sensor chips. This creates an effective platform for monitoring simultaneous binding events on each of the regions patterned with the receptors. This system has been specifically designed with com. available components to allow relatively easy duplication. Furthermore, this system can use a proven, simple method to compensate for changes in the bulk index of refraction of the soln. contg. the analytes due to changes in temp. or solute concn. with simple modifications to the sensor chips alone. Preliminary results demonstrate how this system can be used to monitor several independent biospecific binding events simultaneously.

IT **338991-24-5 338991-26-7 338991-28-9**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(surface plasmon resonance **array** biosensor based on

spectroscopic imaging)
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 16 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:878075 CAPLUS
DOCUMENT NUMBER: 134:175116
TITLE: Electropolymerization as a versatile route for immobilizing biological species onto surfaces: application to DNA biochips
AUTHOR(S): Bidan, Gerard; Billon, Martial; Galasso, Katia; Livache, Thierry; Mathis, Gerard; Roget, Andre; Torres-Rodriguez, Luz Maria; Vieil, Eric
CORPORATE SOURCE: CEA-GRENOBLE, UMR 5819 (CNRS-CEA-Universite J. Fourier), Grenoble, 38054, Fr.
SOURCE: Applied Biochemistry and Biotechnology (2000), 89(2-3), 183-193
CODEN: ABIBDL; ISSN: 0273-2289
PUBLISHER: Humana Press Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Biosensors based on electronic conducting polymers appear particularly well suited to the requirements of modern biol. anal.-multiparametric assays, high information d., and miniaturization. We describe a new methodol. for the prepn. of addressed DNA matrixes. The process includes an electrochem. directed copolymn. of pyrrole and oligonucleotides bearing on their 5' end a pyrrole moiety. The resulting polymer film deposited on the addressed electrode consists of pyrrole chains bearing covalently linked oligonucleotides (ODN). An oligonucleotide **array** was constructed on a silicon device bearing a matrix of 48 addressable 50 .times. 50 .mu.m gold microelectrodes. This technol. was successfully applied to the genotyping of hepatitis C virus in blood samples. Fluorescence detection results show good sensitivity and a high degree of spatial resoln. In addn., gravimetric studies carried out by the quartz crystal microbalance technique provide quant. data on the amt. of surface-immobilized species. In the case of ODN, it allows discrimination between hybridization and nonspecific adsorption. The need for versatile processes for the immobilization of biol. species on surfaces led us to extend our methodol. A biotinylated surface was obtained by co-electropolymn. of pyrrole and biotin-pyrrole monomers. The efficiency for recognition (and consequently immobilization) of R-phycoerythrin-avidin was demonstrated by fluorescence detection. Copolymn. of decreasing ratios of pyrrole-biotin over pyrrole allowed us to obtain a decreasing scale of fluorescence.
IT **326495-58-3**
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(biochips construction using electropolymn. for immobilization of biol.mols.)
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 17 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:824447 CAPLUS

DOCUMENT NUMBER: 134:2337
TITLE: Immobilization of unmodified biopolymers to acyl fluoride activated substrates
INVENTOR(S): Matson, Robert S.; Milton, Raymond C.
PATENT ASSIGNEE(S): Beckman Coulter, Inc., USA
SOURCE: PCT Int. Appl., 41 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000070088	A2	20001123	WO 2000-US12729	20000510
WO 2000070088	A3	20020328		
W: JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6268141	B1	20010731	US 1999-312095	19990512
US 2001039018	A1	20011108	US 2001-872052	20010531

PRIORITY APPLN. INFO.: US 1999-312095 A 19990512

AB A method of attaching unmodified biopolymers, particularly, unmodified polynucleotides, directly to a solid support is provided. The method includes the steps of (a) providing unmodified biopolymers; (b) providing a solid support having at least one surface comprising pendant acyl fluoride functionalities; and (c) contacting the unmodified biopolymers with the solid support under a condition sufficient for allowing the attachment of the biopolymers to the solid support. The unmodified biopolymers may be nucleic acids, polypeptides, proteins, carbohydrates, lipids and analogs thereof. The unmodified polynucleotides may be DNA, RNA or synthesized oligonucleotides. The DNA may be single or double stranded. A device including a solid support and unmodified biopolymers attached to the solid support by reaction with the pendant acyl fluoride functionalities of the solid support is also provided. The methods and devices of the present invention may be used in performing hybridization assays and immunoassays.

IT **115416-38-1**, 5-(Biotinamido)pentylamine
RL: ARU (Analytical role, unclassified); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)
(immobilization of unmodified biopolymers to acyl fluoride activated substrates)

L6 ANSWER 18 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:493712 CAPLUS
DOCUMENT NUMBER: 133:115883
TITLE: Method for the affinity isolation of newly synthesized RNA
INVENTOR(S): Pardinas, Jose R.; Chan, Kyle W. H.
PATENT ASSIGNEE(S): Signal Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000042221	A2	20000720	WO 2000-US691	20000111
WO 2000042221	A3	20000928		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1144687	A2	20011017	EP 2000-911576	20000111

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: US 1999-228455 A 19990111
WO 2000-US691 W 20000111

AB Methods are provided for the isolation of newly synthesized mRNA. Such methods involve the incorporation of biotinylated rNTP analogs into cellular mRNA, and sepg. biotinylated mRNA from unlabeled RNA. The invention also provides methods for detg. an effect of a stimulus on RNA transcription, by exposing the cell to a stimulus and detg. the level of biotinylated RNA in the cell and comparing it with the level in cells not exposed to the stimulus. The methods provided herein may be used, for example, for gene discovery, drug screens and studies of the regulation of gene expression.

IT **106519-39-5**
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(method for the affinity isolation of newly synthesized RNA)

L6 ANSWER 19 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:344067 CAPLUS
DOCUMENT NUMBER: 132:345119
TITLE: Multi-**array**, multi-specific electrochemiluminescence testing
INVENTOR(S): Wohlstadter, Jacob N.; Wilbur, James; Sigal, George; Martin, Mark; Guo, Liang-hong; Fischer, Alan; Leland, Jon
PATENT ASSIGNEE(S): Meso Sclae Technologies, Llc., USA
SOURCE: U.S., 68 pp., Cont.-in-part of U.S. Ser. No. 402,076.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6066448	A	20000523	US 1996-611804	19960306
CA 2213854	AA	19960919	CA 1996-2213854	19960306
CN 1186513	A	19980701	CN 1996-193840	19960306
ZA 9601925	A	19970805	ZA 1996-1925	19960308
US 6207369	B1	20010327	US 1996-715163	19960917
US 6140045	A	20001031	US 1997-814085	19970306
US 2001021534	A1	20010913	US 2001-771796	20010129

PRIORITY APPLN. INFO.: US 1995-402076 A2 19950310
US 1995-402277 A2 19950310
US 1996-12957P P 19960306
US 1996-611804 A2 19960306
US 1996-715163 A1 19960917

AB Materials and methods are provided for producing patterned multi-**array**, multi-sp. surfaces which are electronically excited for use in electrochemiluminescence based tests. Materials and methods are provided for the chem. and/or phys. control of conducting domains and reagent deposition for use in flat panel displays and multiply specific testing procedures. Anti-prostate specific antigen (PSA) antibody immobilized on a patterned gold electrode (prepn. given) was used as an electrochemiluminescent sensor for immunoassay of PSA in serum samples.

IT **269409-10-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(in sensor fabrication; patterned multi-**array**, multi-sp. surfaces and porous, conductive electrodes for electrochemiluminescence binding assays)

IT **205249-98-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in sensor prepn.; patterned multi-**array**, multi-sp. surfaces and porous, conductive electrodes for electrochemiluminescence binding assays)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 20 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:333921 CAPLUS
DOCUMENT NUMBER: 134:2170
TITLE: Compact phase-sensitive multichannel detection system with **array** measurements of biosensor chips
AUTHOR(S): Rabinovich, Emmanuel M.; O'Brien, Michael J., II; Brueck, Steven R. J.; Yang, S.; Perez-Luna, Victor H.; Lopez, Gabriel P.
CORPORATE SOURCE: Cent. High Technol. Mater., Univ. of New Mexico, Albuquerque, NM, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (2000), 3926(Advances in Nucleic Acid and Protein Analyses, Manipulation, and Sequencing), 181-185
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In many medical, biol., chem., and environmental applications it is desirable not only to monitor one specific chem. or biol. species, but several simultaneously. Thus, we have focused our efforts on development of a detection system for multi-analyte sensor **arrays** that is able to monitor the changes in fluorophore lifetimes (via the detection of phase shifts) corresponding to the presence of many analytes of interest in near-real time. We describe a phase-sensitive electronic detection system employing a multianode photomultiplier tube. This system utilizes the

frequency-domain method of time-resolved spectroscopy and is also suitable for lifetime-based imaging. The sixteen-channel prototype is inexpensive, compact, assembled from off-the-shelf components, and may use several different kinds of light excitation sources (including light emitting diodes (LED5), laser diodes (LD5), as well as Ar+ and He-Ne lasers with an external electro-optical modulator) and light delivery systems (including fiber optical light delivery). We present some examples of its applications and demonstrate the monitoring of sixteen sectors of a biosensor chip surface created with fluorophore-labeled antibody mols. immobilized on a mixed monolayer of hapten and hydroxyterminated thiolates. The basic design is scalable; future versions may accommodate up to 63 channels or more with currently available PMTs.

IT **148913-95-5**
RL: ARU (Analytical role, unclassified); BUU (Biological use, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(compact phase-sensitive multichannel detection system with **array** measurements of biosensor chips)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 21 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:98825 CAPLUS
DOCUMENT NUMBER: 132:133201
TITLE: Nucleotide analogs and their use in labeling nucleic acids for hybridization assays
INVENTOR(S): McGall, Glenn H.; Barone, Anthony D.
PATENT ASSIGNEE(S): Affymetrix, Inc., USA
SOURCE: PCT Int. Appl., 69 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000006771	A2	20000210	WO 1999-US12390	19990720
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2001018514	A1	20010830	US 1998-126645	19980731
AU 9952035	A1	20000221	AU 1999-52035	19990720
EP 1124838	A2	20010822	EP 1999-937150	19990720
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1998-126645 A 19980731
WO 1999-US12390 W 19990720

OTHER SOURCE(S): MARPAT 132:133201

AB Nucleic acid labeling compds. contg. heterocyclic derivs. are

disclosed. The heterocyclic deriv. contg. compds. are synthesized by condensing a heterocyclic deriv. with a cyclic group (e.g. a ribofuranose deriv.). The labeling compds. are suitable for enzymic attachment to a nucleic acid, either terminally or internally, to provide a mechanism of nucleic acid detection. Thus, a no. of biotin- or fluorescein purine- and pyrimidine-.beta.-D-ribofuranoside analogs were prepd. These analogs were successfully incorporated into hybridization probes (using terminal deoxynucleotidyltransferase) and utilized in single nucleotide polymorphism genotyping using microchip **arrays**.

IT **257297-78-2P 257297-81-7P 257297-89-5P 257297-94-2P 257297-97-5P**
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(nucleotide analogs and their use in labeling nucleic acids for hybridization assays)

IT **72040-63-2 89889-52-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(nucleotide analogs and their use in labeling nucleic acids for hybridization assays)

IT **257297-85-1P 257298-00-3P 257298-01-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(nucleotide analogs and their use in labeling nucleic acids for hybridization assays)

L6 ANSWER 22 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:514900 CAPLUS
DOCUMENT NUMBER: 132:75486
TITLE: Peptide- and biotin-oligonucleotide-pyrrole conjugates for electrochemical addressing on silicon chip
AUTHOR(S): Bazin, H.; Livache, T.
CORPORATE SOURCE: CIS biointernational/DIVT/Research and New Technologies, Bagnols/Ceze, F-30203, Fr.
SOURCE: Nucleosides & Nucleotides (1999), 18(6 & 7), 1309-1310
CODEN: NUNUD5; ISSN: 0732-8311
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The syntheses of pyrrole-oligonucleotide-peptide conjugates and pyrrole-oligonucleotide-biotin conjugates were described. The oligonucleotide moiety acted as an active linker which allowed the easy purifn. and quantitation of the conjugates and in turn controlled the grafting. The peptide conjugates were immobilized on a silicon **array** and their immunoreactivity was tested using biotinylated antibodies and a phycoerythrin-streptavidin staining. The biotin conjugate provided a fluorescence scale.

IT **128161-43-3**, 4-N-(6-Biotinamidohexyl)-5-methyl-2'-deoxycytidine
RL: RCT (Reactant); RACT (Reactant or reagent)
(peptide- and biotin-oligonucleotide-pyrrole conjugates for electrochem. addressing on silicon chip)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 23 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:50279 CAPLUS
DOCUMENT NUMBER: 130:249083
TITLE: Development of sub-micron patterned carbon electrodes for immunoassays
AUTHOR(S): Dontha, Narasaiah; Nowall, Wilbur B.; Kuhr, Werner G.
CORPORATE SOURCE: Dep. Chem., Univ. California, Riverside, CA, 92521, USA
SOURCE: Journal of Pharmaceutical and Biomedical Analysis (1999), 19(1-2), 83-91
CODEN: JPBADA; ISSN: 0731-7085
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Sub-micron sized domains of a carbon surface are derivatized with antibodies using biotin/avidin technol. These sites are spatially-segregated from, and directly adjacent to, electron transfer sites on the same electrode surface. The distance between these electron transfer sites and enzyme-loaded domains are kept to a min. (e.g. less than a micron) to maintain the high sensitivity required for the measurement of enzyme-linked cofactors in an enzyme-linked immunoassay (ELISA). This is accomplished through the use of photolithog. attachment of photobiotin using an interference pattern from a UV laser generated at the electrode surface. This allows the construction of microscopic **arrays** of active ELISA sites on a carbon substrate while leaving other sites underivatized to facilitate electron transfer reactions of redox mediators; thus maximizing sensitivity and detection of the enzyme mediator. The carbon electrode surface is characterized with respect to its chem. structure and electron transfer properties following each step of the antibody immobilization process. The characterization of specific modifications of micron regions of the carbon surface requires anal. methodol. that has both high spatial resoln. and sensitivity. We have used fluorescence microscopy with a cooled CCD imaging system to visualize the spatial distribution of enzyme immobilization sites (indicated by fluorescence from Texas-Red labeled antibody) across the carbon surface. The viability of the enzyme attached to the surface in this manner was demonstrated by imaging the distribution of an insol., fluorescent product.

IT **96087-37-5**, Photobiotin
RL: DEV (Device component use); USES (Uses)
(development of sub-micron patterned carbon electrodes for immunoassays)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 24 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:21643 CAPLUS
DOCUMENT NUMBER: 130:89853
TITLE: Polymerized crystalline colloidal **array** sensor methods
INVENTOR(S): Asher, Sanford A.; Holtz, John H.
PATENT ASSIGNEE(S): University of Pittsburgh, USA
SOURCE: U.S., 15 pp., Cont.-in-part of U.S. Ser. No.

743,816.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5854078	A	19981229	US 1997-819240	19970317
US 5898004	A	19990427	US 1996-743816	19961106
WO 9841859	A1	19980924	WO 1998-US4566	19980309
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9866935	A1	19981012	AU 1998-66935	19980309
EP 986750	A1	20000322	EP 1998-909054	19980309
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001517307	T2	20011002	JP 1998-540570	19980309
US 6187599	B1	20010213	US 1998-111610	19980707
US 2001026946	A1	20011004	US 2001-753592	20010103
US 2002031841	A1	20020314	US 2001-865348	20010525

PRIORITY APPLN. INFO.:

US 1996-743816	A2	19961106
US 1997-819240	A	19970317
WO 1998-US4566	W	19980309
US 1998-111610	A1	19980707
US 2001-753592	A2	20010103

AB Novel sensor devices composed of a cryst. colloidal **array** (CCA) polymd. in a hydrogel are disclosed. The hydrogels are characterized as being capable of shrinking and swelling in response to specific stimuli applied thereto. As the hydrogels shrink or swell, the lattice structure of the CCA embedded therein changes, thereby changing the wavelength of light diffracted by the CCA. Thus by monitoring the change in diffracted wavelength, the concn. of a stimulus is detd. The gels can be modified to sense numerous different stimuli. The sensor devices are specific in that they are modified to react with only one species or family of species. These sensors have various applications in areas including, for example, environmental and chem. systems, chemomech. systems, sensor devices and medical diagnostic tools. Various methods for making and using these devices are also disclosed.

IT **115416-38-1**, 5-(Biotinamido)pentylamine
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(gas concn. detn. in soln. by optical sensor based on cryst. colloidal **array** polymd. in hydrogel capable of shrinking and swelling in response to exposure of chem. species)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 25 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:640403 CAPLUS
DOCUMENT NUMBER: 129:269747
TITLE: Novel polymerized crystalline colloidal **array** sensors
INVENTOR(S): Asher, Sanford A.; Holtz, John H.
PATENT ASSIGNEE(S): University of Pittsburgh of the Commonwealth System of Higher Education, USA
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9841859	A1	19980924	WO 1998-US4566	19980309
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5854078	A	19981229	US 1997-819240	19970317
AU 9866935	A1	19981012	AU 1998-66935	19980309
EP 986750	A1	20000322	EP 1998-909054	19980309
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001517307	T2	20011002	JP 1998-540570	19980309

PRIORITY APPLN. INFO.:
US 1997-819240 A 19970317
US 1996-743816 A2 19961106
WO 1998-US4566 W 19980309

AB Novel sensor devices composed of a cryst. colloidal **array** (CCA) polymd. in a hydrogel are disclosed. The hydrogels are characterized as being capable of shrinking and swelling in response to specific stimuli applied thereto. As the hydrogels shrink or swell, the lattice structure of the CCA embedded therein changes, thereby changing the wavelength of light diffracted by the CCA. Thus by monitoring the change in diffracted wavelength, the concn. of a stimulus is detd. The gels can be modified to sense numerous different stimuli. The sensor devices are specific in that they are modified to react with only one species or family of species. These sensors have various applications in areas including, for example, environmental and chem. systems, chemomech. systems, sensor devices and medical diagnostic tools. Various methods for making and using these devices are also disclosed.

IT **115416-38-1**, 5-(Biotinamido)pentylamine
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(gas concn. detn. in soln. by optical sensor based on cryst. colloidal **array** polymd. in hydrogel capable of shrinking and swelling in response to exposure of chem. species)

L6 ANSWER 26 OF 39 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1998:485229 CAPLUS
DOCUMENT NUMBER: 129:106256
TITLE: Multiplexed molecular analysis apparatus and method
INVENTOR(S): Eggers, Mitchell D.; Balch, William J.; Hogan, Michael E.; Mendoza, Leopoldo G.
PATENT ASSIGNEE(S): Genometrix Inc., USA
SOURCE: PCT Int. Appl., 110 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9829736	A1	19980709	WO 1997-US24098	19971231
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9866463	A1	19980731	AU 1998-66463	19971231
EP 990142	A1	20000405	EP 1997-954992	19971231
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6083763	A	20000704	US 1997-2170	19971231
JP 2001510339	T2	20010731	JP 1998-530285	19971231
US 6331441	B1	20011218	US 1998-217154	19981221
US 6312960	B1	20011106	US 1998-218979	19981222

PRIORITY APPLN. INFO.:

US 1996-34627P	P	19961231
US 1997-2170	A3	19971231
WO 1997-US24098	W	19971231

AB A method and app. are disclosed for analyzing mol. structures within a sample substance using an **array** having a plurality of test sites upon which the sample substance is applied. The invention is also directed to a method and app. for constructing mol. **arrays** having a plurality of test sites. The invention allows for definitive high throughput anal. of multiple analytes in complex mixts. of sample substances. A combinatorial anal. process is described that results in the creation of an **array** of integrated chem. devices. These devices operate in parallel, each unit providing specific sets of data that, when taken as a whole, give a complete answer for a defined expt. This approach is uniquely capable of rapidly providing a high d. of information from limited amts. of sample in a cost-effective manner. Clean glass microscope cover slides were surface derivatized with 3-aminopropyltrimethoxysilane. A Hamilton 2200 Microlab robot was used to print a **microarray** of N-hydroxysuccinimide-activated haptens (digoxigenin, fluorescein, and biotin) on the glass substrate. To detect the immobilized haptens, the glass slides were rinsed and then incubated with streptavidin-horseradish peroxidase (HRP), anti-digoxigenin-HRP, and antifluorescein-HRP conjugates. The slides were imaged using chemiluminescent substrate

(SuperSignal Substrate) and a proximal CCD detector.
IT **109940-19-4**, Sulfosuccinimidyl-6-biotinamidohexanoate
RL: RCT (Reactant); RACT (Reactant or reagent)
(deposition and reaction in **array** with amino-silanized glass slides; multiplexed mol. anal. app. and method)

L6 ANSWER 27 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:323184 CAPLUS
DOCUMENT NUMBER: 129:16888
TITLE: Novel polymerized crystalline colloidal **array** sensors, their manufacture and uses
INVENTOR(S): Asher, Sanford A.; Holtz, John H.
PATENT ASSIGNEE(S): University of Pittsburgh of the Commonwealth System of Higher Education, USA
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9819787	A1	19980514	WO 1997-US19592	19971024
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5898004	A	19990427	US 1996-743816	19961106
AU 9850936	A1	19980529	AU 1998-50936	19971024
AU 717930	B2	20000406		
EP 951348	A1	19991027	EP 1997-913851	19971024
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001505236	T2	20010417	JP 1998-521521	19971024

PRIORITY APPLN. INFO.: US 1996-743816 A 19961106
WO 1997-US19592 W 19971024

AB Novel sensor devices composed of a cryst. colloidal **array** (CCA) polymd. in a hydrogel are disclosed. The hydrogels are characterized as being capable of shrinking and swelling in response to specific stimuli applied thereto. As the hydrogels shrink or swell, the lattice structure of the CCA embedded therein changes, thereby changing the wavelength of light diffracted by the CCA. Thus by monitoring the change in diffracted wavelength, the concn. of a stimulus is detd. The gels can be modified to sense numerous different stimuli. The sensor devices are specific in that they are modified to react with only one species or family of species. These sensors have various applications in areas including, e.g., environmental and chem. systems, chemomech. systems, sensor devices and medical diagnostic tools. Various methods for making and using these devices are also disclosed. In an example, charged polystyrene particles were prepd. by reacting colloidal polystyrene

with Na 1-allyloxy-2-hydroxypropanesulfonate in water using a persulfate catalyst, allowed to self assemble to form a CCA, combined with N-isopropylacrylamide as a gel monomer, 4-acrylamidobenzo-18-crown-6 ether as a mol. recognition monomer, N,N'-methylenebisacrylamide as a crosslinker and diethoxyacetophenone as a photoinitiator, then irradiated with UV light to crosslink to a hydrogel for making a sensor.

IT **115416-38-1**, 5-(Biotinamido)pentylamine
RL: MOA (Modifier or additive use); USES (Uses)
(linking agents; polymd. cryst. colloidal **array** sensors, their manuf. and uses)

L6 ANSWER 28 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:197670 CAPLUS
DOCUMENT NUMBER: 128:254896
TITLE: Multi-**array**, multi-specific electrochemiluminescent testing
INVENTOR(S): Wohlstadter, Jacob N.; Wilbur, James; Sigal, George; Martin, Mark; Guo, Liang-Hong; Fischer, Alan; Leland, Jon; Billadeau, Mark A.; Helms, Larry R.; Darvari, Ramin
PATENT ASSIGNEE(S): Meso Scale Technologies, LLC, USA
SOURCE: PCT Int. Appl., 288 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9812539	A1	19980326	WO 1997-US16942	19970917
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 6207369	B1	20010327	US 1996-715163	19960917
AU 9746495	A1	19980414	AU 1997-46495	19970917
AU 743567	B2	20020131		
EP 944820	A1	19990929	EP 1997-945249	19970917
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001503856	T2	20010321	JP 1998-514984	19970917

PRIORITY APPLN. INFO.:
US 1996-715163 A 19960917
US 1995-402076 B2 19950310
US 1995-402277 B2 19950310
US 1996-611804 A2 19960306
WO 1997-US16942 W 19970917

AB Materials and methods are provided for producing patterned multi-**array**, multi-sp. surfaces for use in diagnostics. The invention provides for electrochemiluminescence methods for detecting or measuring an analyte of interest. It also provides for novel electrodes for ECL assays. Materials and methods are provided

for the chem. and/or phys. control of conducting domains and reagent deposition for use multiply specific testing procedures.

IT **205249-98-5**
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(electrochemiluminescent detection of tris-bipyridine ruthenium-labeled avidin on polyacrylamide surface)

L6 ANSWER 29 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:45073 CAPLUS
DOCUMENT NUMBER: 128:112506
TITLE: Fabrication of microscopic biosensor **arrays** without microscopic alignment
AUTHOR(S): Tender, Leonard M.; Opperman, Kimberly A.; Hampton, Philip D.; Lopez, Gabriel P.
CORPORATE SOURCE: Dep. Chemical Nuclear Engineering, Univ. New Mexico, Albuquerque, NM, 87131, USA
SOURCE: Adv. Mater. (Weinheim, Ger.) (1998), 10(1), 73-75
CODEN: ADVMEW; ISSN: 0935-9648
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A method of fabrication of microscopic biosensor **arrays** was described. Microscopic alignment was not required. Self-assembled monolayers (SAMs) of alkanethiolates were spatially removed from Au **arrays** by selective electrochem. desorption. Then the exposed elements were remodified with SAMs formed of different alkanethiolates.

IT **201733-10-0P**
RL: BAC (Biological activity or effector, except adverse); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(microscopic biosensors without microscopic alignment)

L6 ANSWER 30 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:692837 CAPLUS
DOCUMENT NUMBER: 128:1330
TITLE: Relationship between molecular structure and supramolecular morphology of DODA-EO2-biotin and related lipids
AUTHOR(S): Huetz, Philippe; van Neuren, Stephanie; Ringler, Philippe; Kremer, Felix; van Breemen, Jan F. L.; Wagenaar, Anno; Engberts, Jan B. F. N.; Fraaije, Johannes G. E. M.; Brisson, Alain
CORPORATE SOURCE: Department of Biophysical Chemistry, University of Groningen, Groningen Biomolecular Sciences and Biotechnology Institute, BIOSON Institute, Groningen, 9747, Neth.
SOURCE: Chemistry and Physics of Lipids (1997), 89(1), 15-30
CODEN: CPLIA4; ISSN: 0009-3084
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We have recently reported that a biotinylated lipid mol., called DODA-EO2-biotin, forms tubular lipid structures upon hydration, which act as a matrix for the formation of ordered helical **arrays** of streptavidin as well as for secondary macromol.

recognition reactions involving biotinylated structures (Ringler et al., 1997). In the present study, the supramol. structures formed by the compds. obtained during the synthesis of DODA-EO2-biotin and of compds. structurally related to DODA-EO2-biotin were investigated by transmission electron microscopy, with the objective being to understand the relationship between mol. structure and supramol. morphol. From the eight lipid mols. investigated, only DODA-EO2-biotin formed tubular structures. Several structural parameters were identified as playing a role in the formation of DODA-EO2-biotin tubes, such as the chirality of the biotin moiety, the satd. nature of the lipid chains, the presence of amide bonds and the correct length and structure of the hydrophilic spacer. In addn., helical crystals of streptavidin were only obtained upon binding of streptavidin to the supramol. assemblies formed by DODA-EO2-biotin.

IT **198898-32-7 198898-33-8 198898-34-9**
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
(prepn. and relationship between mol. structure and supramol. morphol. of DODA-EO2-biotin and related lipids)

IT **142260-90-0P**
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(prepn. and relationship between mol. structure and supramol. morphol. of DODA-EO2-biotin and related lipids)

L6 ANSWER 31 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:672712 CAPLUS
DOCUMENT NUMBER: 125:322311
TITLE: Multi-**array**, multi-specific electrochemiluminescence testing
INVENTOR(S): Wohlstadter, Jacob; Wilbur, James; Sigal, George; Martin, Mark; Guo, Liang-Hong; Fischer, Alan; Leland, Jon
PATENT ASSIGNEE(S): Meso Scale Technologies, Llc, USA
SOURCE: PCT Int. Appl., 221 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9628538	A1	19960919	WO 1996-US3190	19960306
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
CA 2213854	AA	19960919	CA 1996-2213854	19960306
AU 9654205	A1	19961002	AU 1996-54205	19960306
AU 720625	B2	20000608		
BR 9607193	A	19971111	BR 1996-7193	19960306

EP 821726	A1	19980204	EP 1996-911269		19960306
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, LT, LV, FI					
CN 1186513	A	19980701	CN 1996-193840		19960306
JP 11502617	T2	19990302	JP 1996-527737		19960306
ZA 9601925	A	19970805	ZA 1996-1925		19960308
US 6140045	A	20001031	US 1997-814085		19970306
PRIORITY APPLN. INFO.:			US 1995-402076	A	19950310
			US 1995-402277	A	19950310
			US 1996-12957P	P	19960306
			WO 1996-US3190	W	19960306

AB The invention relates to a cassette for conducting electrochemiluminescence (ECL) reactions and assays comprising a plurality of discrete binding domains immobilized on a support, the discrete binding domains being spatially aligned with .gtoreq.1 electrode and .gtoreq.1 counterelectrode pairs. The cassette preferably includes a first support having a plurality of discrete binding domains immobilized on the surface. It may have .gtoreq.1 electrode and .gtoreq.1 counterelectrode pairs. The electrode and counterelectrode pairs are sep. addressable by a source of elec. energy in the form of a voltage waveform effective to trigger ECL. The invention relates further to methods for using the cassettes for measuring ECL in a sample by contacting the plurality of binding domains of a cassette with a sample that contains a plurality of analytes of interest, under ECL assay conditions, and then applying a voltage waveform effective to trigger ECL at each of the plurality of electrode and counterelectrode pairs and detecting or measuring the triggered ECL. The invention also provides kits for performing the assays. Examples are given of the detection of .alpha.-fetoprotein, TSH, and prostate-specific antigen.

IT **148913-95-5**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**multiarray**, multispecific electrochemiluminescence methods and kits for biochem. anal.)

IT **183052-18-8**
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(**multiarray**, multispecific electrochemiluminescence methods and kits for biochem. anal.)

L6 ANSWER 32 OF 39 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER:	1995:320176 CAPLUS
DOCUMENT NUMBER:	122:323151
TITLE:	Preparation and Characterization of Au Colloid Monolayers
AUTHOR(S):	Grabar, Katherine C.; Freeman, R. Griffith; Hommer, Michael B.; Natan, Michael J.
CORPORATE SOURCE:	Department of Chemistry, Pennsylvania State University, University Park, PA, 16802, USA
SOURCE:	Anal. Chem. (1995), 67(4), 735-43 CODEN: ANCHAM; ISSN: 0003-2700
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB The design and initial characterization of 2-dimensional **arrays** of colloidal Au particles are reported. These surfaces are prepd. by self-assembly of 12 nm diam. colloidal Au particles on immobilized polymers having pendant functional groups

with high affinity for Au (i.e., CN, SH, NH2). The polymers are formed by condensation of functionalized alkoxysilanes on cleaned quartz, glass, and SiO2 surfaces. The assembly protocol is carried out completely in soln.; cleaned substrates are immersed in methanolic solns. of organosilane, rinsed, and subsequently immersed in aq. colloidal Au solns. The 2-dimensional **arrays** form spontaneously on the polymer surface. The resulting substrates were characterized by UV-vis spectroscopy, TEM, and surface-enhanced Raman scattering (SERS). The TEM data show that the particles are sepd. spatially, but are close enough to interact electromagnetically (small spacing compared to .lambda.). The UV-vis data show that collective particle surface plasmon modes are present in the 650-750 nm region, suggesting that these assemblies are SERS-active. This is indeed the case, with enhancement factors of roughly 104. The Au colloid monolayers possess a set of features that make them very attractive for both basic and applied uses, including uniform roughness, high stability, and biocompatibility.

IT **102849-12-7**, 3-(N-Maleimidopropionyl)biocytin
RL: PEP (Physical, engineering or chemical process); PROC (Process) (surface derivatization for Au colloid monolayer self-assembly in prepn. of SERS-active substrates for physicochem. and biol. applications)

L6 ANSWER 33 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:30093 CAPLUS
DOCUMENT NUMBER: 122:234820
TITLE: Analyte detection by competitive inhibition of ion channel gating
INVENTOR(S): King, Lionel George
PATENT ASSIGNEE(S): Australian Membrane and Biotechnology Research Institute, Australia; University of Sydney
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9412875	A1	19940609	WO 1993-AU620	19931202
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2150915	AA	19940609	CA 1993-2150915	19931202
AU 9456188	A1	19940622	AU 1994-56188	19931202
AU 663243	B2	19950928		
EP 672251	A1	19950920	EP 1994-901688	19931202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08504943	T2	19960528	JP 1993-512594	19931202
US 5591647	A	19970107	US 1995-436236	19950517
PRIORITY APPLN. INFO.:			AU 1992-6171	19921203
			WO 1993-AU620	19931202

AB The present invention relates to a membrane for use in the detection of an analyte. The membrane comprises a closely packed **array** of self-assembling amphiphilic mols. and a plurality of ionophores. A first and a second ligand is attached to an end of

the ionophores adjacent the surface of the membrane. The membrane is characterized in that the binding of the first ligand to its binding partner prevents the flow of ions across the membrane via the ionophores. Further, the binding of the second ligand to its binding partner prevents the binding of the first ligand to its binding partner.

IT **128395-62-0DP**, gramicidin esters
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for membrane construction)

IT **72040-63-2**
RL: RCT (Reactant)
(reaction of, with gramicidin-dinitrophenyllysine ester conjugate, for membrane construction)

L6 ANSWER 34 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1994:264907 CAPLUS
DOCUMENT NUMBER: 120:264907
TITLE: Demonstration of an LB monolayer cassette strategy for forming ordered **arrays** of biological molecules: the biotinylated .beta.-DPPE-lipid monolayer-streptavidin-biotinylated phycoerythrin film
AUTHOR(S): Samuelson, L. A.; Marx, K. A.; Kumar, J.; Tripathy, S. K.; Wiley, B.; Sengupta, S.; Cazeca, M.; Kaplan, D. L.
CORPORATE SOURCE: Biotechnol. Div., U. S. Army Natick Res. Dev. Eng. Cent., Natick, MA, 01760-5250, USA
SOURCE: Proc. Int. Conf. Intell. Mater., 1st (1993), 01760-5020. Editor(s): Takagi, Toshinori. Technomic: Lancaster, Pa.
CODEN: 59CBA5
DOCUMENT TYPE: Conference
LANGUAGE: English

AB A generalized methodol. for the selective incorporation of photodynamic proteins into mol. assemblies is described. Virtually any protein that can be derivatized with streptavidin or biotin can be incorporated into these systems. The authors focused the efforts described here on phycobiliproteins and bacteriorhodopsin, as well as antibodies, although enzymes, gene probes and other moieties could also be coupled into the system to build in selectivity. Coupling these systems, either in mixed monolayers or in multilayers with appropriate conductive polymers or other materials will provide the optoelectronic signal transduction needed for biosensor, optical display and other applications.

IT **136235-58-0**
RL: ANST (Analytical study)
(Langmuir-Blodgett film contg., prepn. of)

L6 ANSWER 35 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1994:238496 CAPLUS
DOCUMENT NUMBER: 120:238496
TITLE: Ordered Protein **Arrays** as Mesophases
AUTHOR(S): Haas, H.; Moehwald, H.
CORPORATE SOURCE: Institute of Physical Chemistry, University of Mainz, Mainz, D 55099, Germany
SOURCE: Langmuir (1994), 10(2), 363-6
CODEN: LANGD5; ISSN: 0743-7463
DOCUMENT TYPE: Journal

LANGUAGE: English
AB Domains of orientationally ordered streptavidin mols. bound to biotinylated amphiphile monolayers at the air/water interface can be compressed reversibly by a factor of 2 without destroying the order. By X-ray reflectivity it is shown that the water content of the protein domains at low lateral pressure corresponds to that of 2D crystals studied previously after transfer on solid support. The domains are highly compressible since 50 vol % of water can be removed upon compression. The results support the view that the protein forms a mesophase and not a cryst. phase.
IT **119830-81-8**
RL: BIOL (Biological study)
(monolayer contg., orientationally ordered streptavidin **array** bound to, mesophase organization of)

L6 ANSWER 36 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:643945 CAPLUS
DOCUMENT NUMBER: 119:243945
TITLE: Cooperativity in the binding of avidin to biotin-lipid-doped Langmuir-Blodgett films
AUTHOR(S): Zhao, Shulei; Walker, D. S.; Reichert, W. M.
CORPORATE SOURCE: Cent. Emerging Cardiovasc. Technol., Duke Univ., Durham, NC, 27708-0281, USA
SOURCE: Langmuir (1993), 9(11), 3166-73
CODEN: LANGD5; ISSN: 0743-7463
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Monolayers of arachidic acid (AA) doped with either biotinylated DPPE (B-DPPE) or a chain extd. biotinylated DPPE (B-x-DPPE) were deposited onto alkylsilane treated surfaces of quartz evanescent fiber optic sensors (EFO) by Langmuir-Blodgett (LB) technique. The surface-modified EFOs were used to obtain binding isotherms of fluorescein labeled avidin to the biotin-lipid-doped LB films. Hyperbolic binding isotherms were obsd. for all B-DPPE doped LB films and for B-x-DPPE doped films with <0.63 mol % biotin lipid. Sigmoid or pos. cooperative binding isotherms were obsd. for all LB films with .gtoreq.0.63 mol % B-x-DPPE. A math. expression for protein binding to a two-dimensional **array** of receptors that takes protein-protein interaction into account was used to quant. assess the cooperativity obsd. in the isotherms. Attenuated total reflection Fourier transform IR (ATR-FTIR) spectroscopy was used to address speculation that cooperativity resulted from a conformational change in avidin. ATR-FTIR results show that avidin experienced significant conformational changes when bound to biotin lipids in the LB films, whereas no conformational change was obsd. for avidin nonspecifically bound to biotin-free LB films.
IT **116643-36-8 144125-61-1**
RL: BIOL (Biological study)
(arachidate monolayer contg., avidin binding to, cooperativity in and glycoprotein conformation response to, protein-receptor interaction in relation to)

L6 ANSWER 37 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:422344 CAPLUS
DOCUMENT NUMBER: 119:22344
TITLE: A biotin-avidin-based screening test for methamphetamine in urine
AUTHOR(S): Oh, Chan; Kim, Julie; Cheng, Anthony; Michael,

Josephine
CORPORATE SOURCE: Beckman Instrum., Brea, CA, 92621, USA
SOURCE: J. Pharm. Biomed. Anal. (1992), 10(10-12), 813-19
CODEN: JPBADA; ISSN: 0731-7085
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A biotin-avidin-based screening test for methamphentamine in urine samples was developed. The assay method utilizes the immunoprecipitin reaction between an antibody to methamphetamine and a conjugate prepd. by complexing avidin with a biotinyl amphetamine deriv. The rate of the immunoprecipitin reaction is monitored on the Beckman **ARRAY** 360 nephelometer. Methamphetamine inhibits the precipitin reaction, and the extent of inhibition allows the quantation of methamphetamine in the urine samples. Using a cut-off value of 0.7 .mu.g mL-1, the assay correctly predicted 83 of 84 samples (98.8%) confirmed to be pos. by GC-MS (>500 ng mL-1). Of 59 GC-MS confirmed neg. samples, 46 samples were found to be neg. by this method as compared to 34 samples detd. with the EMIT assay. Within-run and between-run relative std. deviations near the cut-off value were <4%. Cross-reactivity with amphetamine was <7%.

IT **65953-56-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, in (aminocaproyl)biotinyl hexylenediamine prepn.)

IT **148225-26-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, in biotin-avidin-based screening test for amphetamine in urine)

IT **148225-25-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, succinyltrifluoroacetylamphetamine reaction with)

L6 ANSWER 38 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:162292 CAPLUS
DOCUMENT NUMBER: 114:162292
TITLE: Receptor membranes and ionophore gating
INVENTOR(S): Cornell, Bruce Andrew; Braach-Maksvytis, Vijoleta Lucija; Pace, Ronald John; King, Lionel George; Raguse, Burkhard; Baxter, Claire Rosemary; Hall, Ruth Milna; Morris, Carol Ann; Osman, Peter Damien John
PATENT ASSIGNEE(S): Australian Membrane and Biotechnology Research Institute Ltd., Australia
SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9008783	A1	19900809	WO 1990-AU25	19900129
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
CA 2045640	AA	19900728	CA 1990-2045640	19900129
CA 2045640	C	19990105		

AU 9050334	A1	19900824	AU 1990-50334	19900129
AU 623747	B2	19920521		
EP 455705	A1	19911113	EP 1990-902588	19900129
EP 455705	B1	19970528		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
JP 04504714	T2	19920820	JP 1990-502496	19900129
JP 2927942	B2	19990728		
EP 770874	A2	19970502	EP 1996-203120	19900129
EP 770874	A3	19980121		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
AT 153673	E	19970615	AT 1990-902588	19900129
ES 2102364	T3	19970801	ES 1990-902588	19900129
JP 11316210	A2	19991116	JP 1999-14833	19900129
US 5443955	A	19950822	US 1991-721431	19910703
US 5874316	A	19990223	US 1996-741299	19961030

PRIORITY APPLN. INFO.:

AU 1989-2441	19890127
AU 1989-2469	19890130
AU 1989-2470	19890130
EP 1990-902588	19900129
JP 1990-502496	19900129
WO 1990-AU25	19900129
US 1991-721431	19910703
US 1995-449962	19950525

AB The invention provides a membrane the cond. of which is dependent on the presence or absence of an analyte. The membrane comprises a closely packed **array** of self-assembling amphiphilic mols. and 2 ionophore components. A receptor mol. reactive with the analyte is provided on 1 of the ionophore components. The binding of the analyte to the receptor mol. causes a change in the relationship between the ionophore components such that the flow of ion across the membrane is prevented or allowed. The ionophore component are preferably selected from the group consisting of amphotericin B, gramicidin A monomers and combinations thereof, with gramicidin A monomers being particularly preferred. The present invention also provides a membrane including receptors directed against the Fc region of antibodies. These receptors are preferably derived from polyclonal antibodies. These membranes provide a "generic" surface which will bind antibodies in a manner such that the antigen binding regions of the antibody are not hindered. The present invention further provides a device adapted for implantation in a mammalian body, the device being characterised in that it is coated with a membrane comprising a closely packed **array** of self-assembling amphiphilic mols. and receptor mols., the receptor mols. being such that the attachment of specific cells to the membrane is enhanced or avoided. It is particularly preferred that the receptor mols. are directed against fibronectin, vitronectin, endothelial cells, or epithelial cells. It is further preferred that the membrane coating the device also includees a plurality of ion channels, such e.g. gramicidin. In addn. to their use in coating implant devices, the membranes of the invention are also useful for immunoassay. Thus lecithin-cholesterol small unilamellar vesicles were prepd. which also contained N-dansyl-dimyristoylphosphatidylethanolamine (prepn. given) and a linker-gramicidin (gramicidin-N-hydroxysuccinimide deriv.; prepn. given). Anti-mouse IgG anti-Fc antibody (and 125I-labeled anti-Fc antibody) were coupled to linker-contg. residues. Fractions contg. anti-Fc antibody covalently attached to the vesicles were active were active when assayed by RIA for antigen binding activity, using

mouse monoclonal IgG. Membrane coating of a Pd surface and membrane gating studies are also described.

IT **133117-37-0**
RL: RCT (Reactant)
(reaction of, in biotinylated gramicidin A prepn. for membrane with ionophore and receptor mol. for immunoassay and implant coating)

L6 ANSWER 39 OF 39 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:227886 CAPLUS
DOCUMENT NUMBER: 110:227886
TITLE: Rapid identification of microorganisms by nucleic acid hybridization after labeling the test sample
AUTHOR(S): Dattagupta, Nanibhushan; Rae, Peter M. M.; Huguenel, Edward D.; Carlson, Elizabeth; Lyga, Andrew; Shapiro, Jeffery A.; Albarella, James P.
CORPORATE SOURCE: Miles Res. Cent., Mol. Diagn., Inc., West Haven, CT, 06516, USA
SOURCE: Anal. Biochem. (1989), 177(1), 85-9
CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The title method employs a monoadduct-forming furocoumarin deriv., which can photochem. label nucleic acids. The labeled nucleic acid can, in turn, be hybridized simultaneously to a panel of immobilized probe DNAs **arrayed** as dots on a solid support such as nitrocellulose. This procedure offers several advantages over more conventional hybridization techniques in that sample nucleic acids can be photolabeled without substantial sample prepn. and that identification can be achieved by a single, rapid hybridization reaction.

IT **113922-69-3DP**, reaction products with DNA
RL: PREP (Preparation)
(prepn. of, as label for microorganisms identification by nucleic acid hybridization)

IT **113072-75-6**
RL: RCT (Reactant)
(reaction of, with aminomethyldimethylangelicin)

[redacted]ENTERED AT 11:28:46 ON 22 MAY 2002

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L7 79 SEA FILE=REGISTRY ABB=ON PLU=ON (115416-38-1/BI OR 257297-85-1/BI OR 257297-78-2/BI OR 257297-81-7/BI OR 257298-00-3/BI OR 257298-01-4/BI OR 148913-95-5/BI OR 72040-63-2/BI OR 89889-52-1/BI OR 102849-12-7/BI OR 205249-98-5/BI OR 257297-89-5/BI OR 257297-94-2/BI OR 257297-97-5/BI OR 373391-39-0/BI OR 373391-42-5/BI OR 86303-26-6/BI OR 106519-39-5/BI OR 109940-19-4/BI OR 111790-37-5/BI OR 113072-75-6/BI OR 113922-69-3/BI OR 116643-36-8/BI OR 119830-81-8/BI OR 128161-43-3/BI OR 128395-62-0/BI OR 129179-83-5/BI OR 133117-37-0/BI OR 136235-58-0/BI OR 136632-30-9/BI OR 142260-90-0/BI OR 144125-61-1/BI OR 148225-25-6/BI OR 148225-26-7/BI OR 183052-18-8/BI OR 198898-32-7/BI OR 198898-33-8/BI OR 198898-34-9/BI OR 201733-10-0/BI OR 215876-01-0/BI OR 269409-10-1/BI OR 326495-58-3/BI OR 331412-53-4/BI OR 338991-24-5/BI OR 338991-26-7/BI OR 338991-28-9/BI OR

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380601-29-6/BI OR 380601-30-9/BI OR 380601-32-1/BI OR
380601-34-3/BI OR 412319-47-2/BI OR 412319-48-3/BI OR
65953-56-2/BI OR 86303-25-5/BI OR 96087-37-5/BI)

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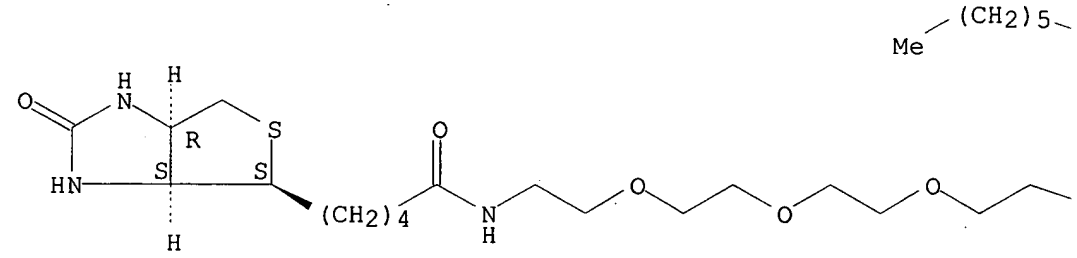
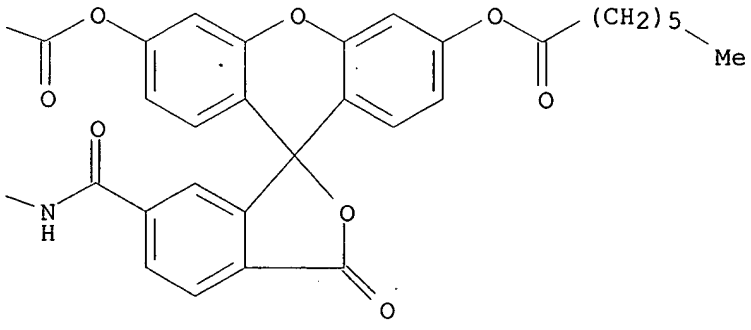
L7 ANSWER 1 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **412319-48-3** REGISTRY
CN INDEX NAME NOT YET ASSIGNED
FS STEREOSEARCH
MF C53 H68 N4 O13 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

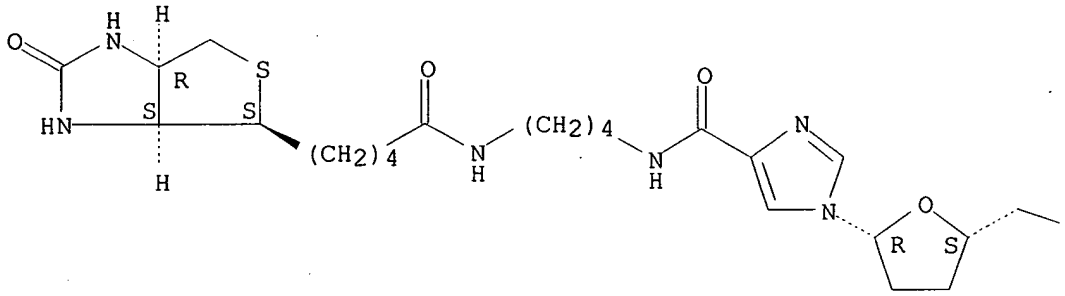
Searcher : Shears 308-4994

REFERENCE 1: 136:320313

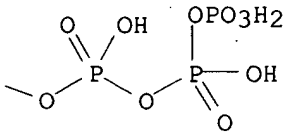
L7 ANSWER 3 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **380601-34-3** REGISTRY
CN Triphosphoric acid, P-[[(2S,5R)-5-[4-[[[4-[[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]amino]butyl]amino]carbonyl]-1H-imidazol-1-yl]tetrahydro-2-furanyl]methyl] ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C23 H39 N6 O14 P3 S
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

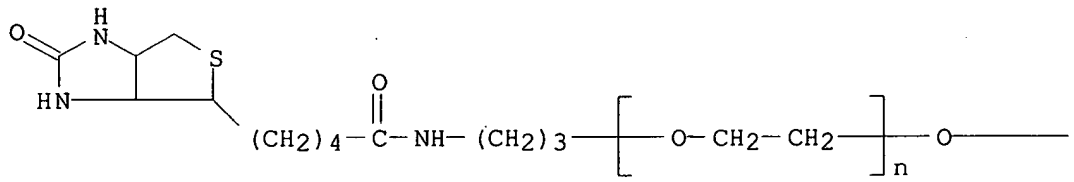
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:37868

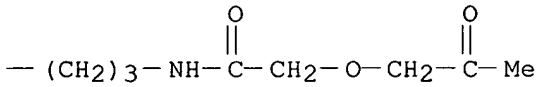
L7 ANSWER 7 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **380154-65-4** REGISTRY
CN Poly(oxy-1,2-ethanediyl), .alpha.-[3-[[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]amino]propyl]-.omega.-[3-[[(2-oxopropoxy)acetyl]amino]propoxy]- (9CI) (CA INDEX NAME)
MF (C2 H4 O)n C21 H36 N4 O6 S

CI PMS
PCT Polyether
SR CA
LC STN Files: CA, CAPLUS

PAGE 1-A



PAGE 1-B



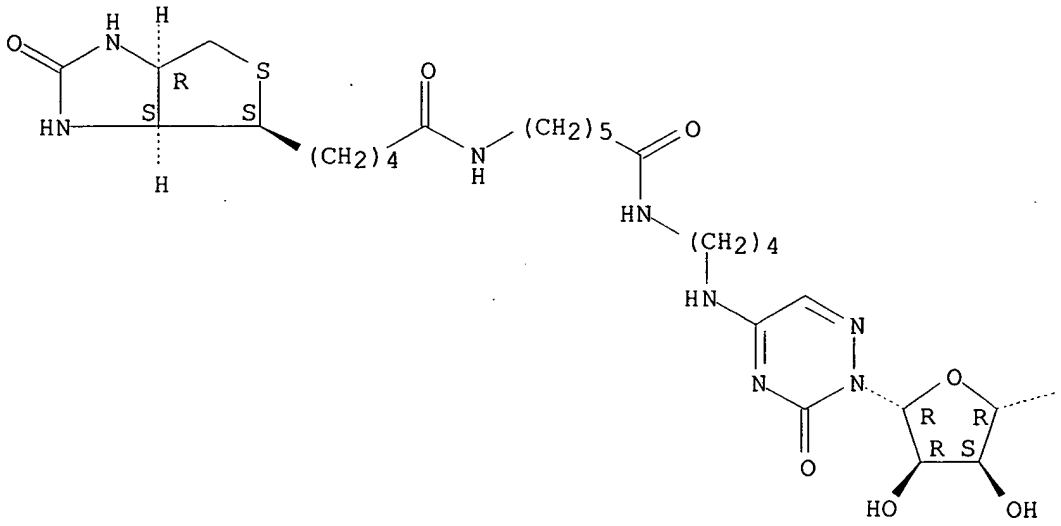
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:34316

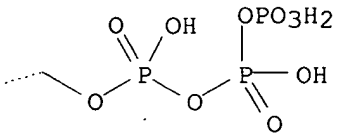
L7 ANSWER 8 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **373644-61-2** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[6-[[4-[[2,3-dihydro-2-[5-O-[hydroxy[[hydroxy(phosphonooxy)phosphinyl]oxy]phosphinyl]-.beta.-D-ribofuranosyl]-3-oxo-1,2,4-triazin-5-yl]amino]butyl]amino]-6-oxohexyl]hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H49 N8 O17 P3 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

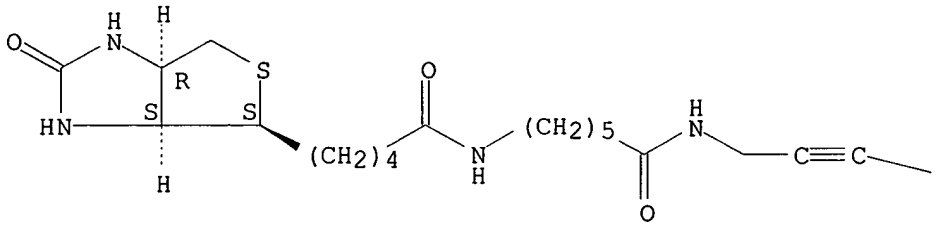
REFERENCE 1: 135:367666

L7 ANSWER 11 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **373391-45-8** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[6-[[3-[4-amino-1-[(2R,3R,4S,5S)-tetrahydro-3,4,5-trihydroxy-2-furanyl]-1H-pyrazolo[3,4-d]pyrimidin-3-yl]-2-propynyl]amino]-6-

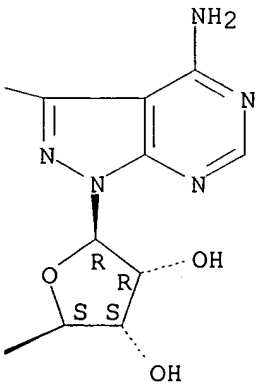
oxohexyl]hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H39 N9 O7 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

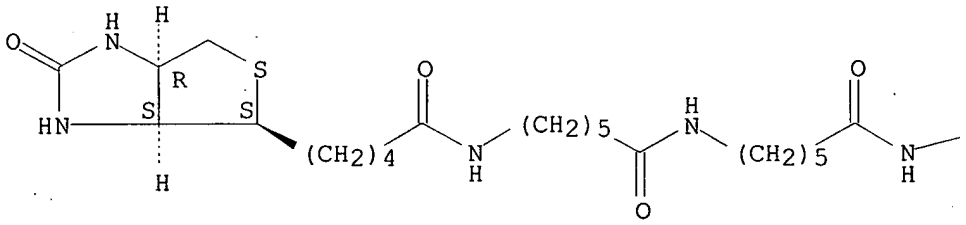
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:367666

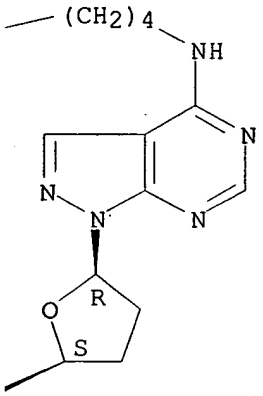
L7 ANSWER 29 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **373390-84-2** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-2-oxo-N-[6-oxo-6-[[6-oxo-6-[[4-[[1-[(2R,5S)-tetrahydro-5-hydroxy-2-furanyl]-1H-pyrazolo[3,4-d]pyrimidin-4-yl]amino]butyl]amino]hexyl]amino]hexyl]-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C35 H56 N10 O6 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

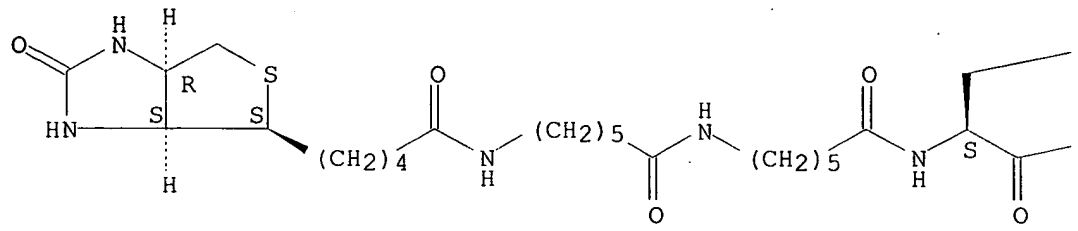
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:367666

L7 ANSWER 33 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **338991-28-9** REGISTRY
CN L-Alaninamide, N-[6-[[6-[[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]amino]-1-oxohexyl]amino]-1-oxohexyl]-L-tyrosylglycylglycyl-L-phenylalanyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
MF C47 H68 N10 O10 S
SR CA
LC STN Files: CA, CAPLUS

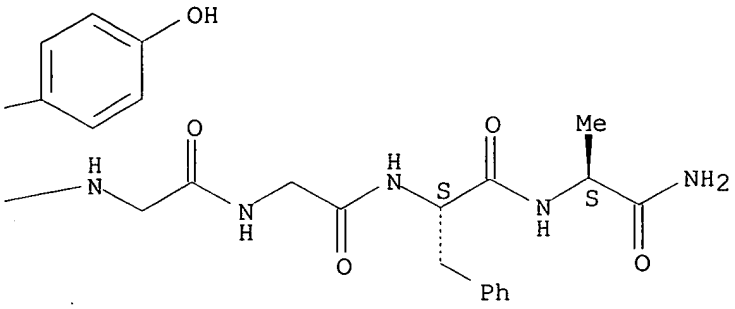
Absolute stereochemistry.

PAGE 1-A



Searcher : Shears 308-4994

PAGE 1-B



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:350101

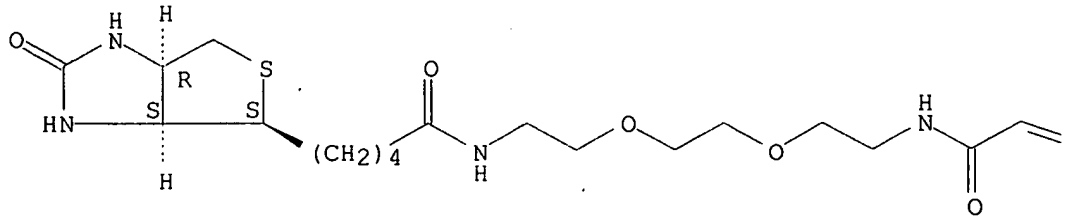
L7 ANSWER 36 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **331412-53-4** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-2-oxo-N-[2-[2-[2-[(1-oxo-2-propenyl)amino]ethoxy]ethoxy]ethyl]-, (3aS,4S,6aR)-, polymer with N-(1-oxo-2-propenyl)-2-propenamide and 2-propenamide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2-Propenamide, N-(1-oxo-2-propenyl)-, polymer with (3aS,4S,6aR)-hexahydro-2-oxo-N-[2-[2-[2-[(1-oxo-2-propenyl)amino]ethoxy]ethoxy]ethyl]-1H-thieno[3,4-d]imidazole-4-pentanamide and 2-propenamide (9CI)
CN 2-Propenamide, polymer with (3aS,4S,6aR)-hexahydro-2-oxo-N-[2-[2-[2-[(1-oxo-2-propenyl)amino]ethoxy]ethoxy]ethyl]-1H-thieno[3,4-d]imidazole-4-pentanamide and N-(1-oxo-2-propenyl)-2-propenamide (9CI)
FS STEREOSEARCH
MF (C19 H32 N4 O5 S . C6 H7 N O2 . C3 H5 N O)x
CI PMS
PCT Polyacrylic
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

CM 1

CRN 175885-17-3
CMF C19 H32 N4 O5 S

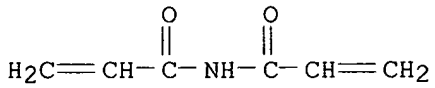
Absolute stereochemistry.

PAGE 1-A



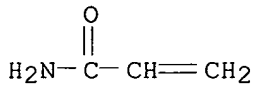
CM 2

CRN 20602-80-6
CMF C6 H7 N O2



CM 3

CRN 79-06-1
CMF C3 H5 N O



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:249193

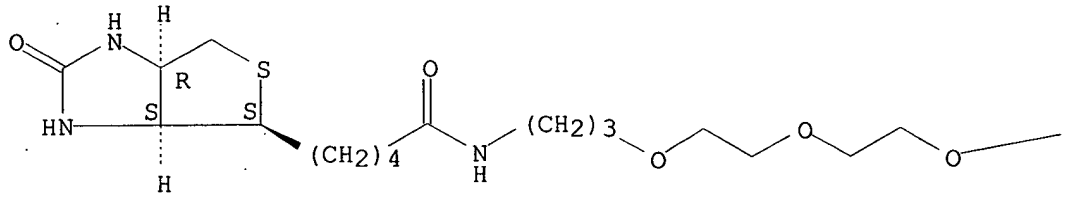
L7 ANSWER 37 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **326495-58-3** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-2-oxo-N-[3-[2-[2-[3-(1H-pyrrol-1-yl)propoxy]ethoxy]ethoxy]propyl]-, (3aS,4S,6aR)-, polymer with 1H-pyrrole (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Pyrrole, polymer with (3aS,4S,6aR)-hexahydro-2-oxo-N-[3-[2-[2-[3-(1H-pyrrol-1-yl)propoxy]ethoxy]ethoxy]propyl]-1H-thieno[3,4-d]imidazole-4-pentanamide (9CI)
FS STEREOSEARCH
MF (C24 H40 N4 O5 S . C4 H5 N)x
CI PMS
PCT Polyother, Polyother only
SR CA
LC STN Files: CA, CAPLUS

CM 1

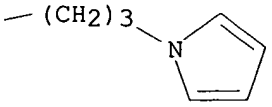
CRN 216219-57-7
CMF C24 H40 N4 O5 S

Absolute stereochemistry.

PAGE 1-A

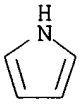


PAGE 1-B



CM 2

CRN 109-97-7
CMF C4 H5 N



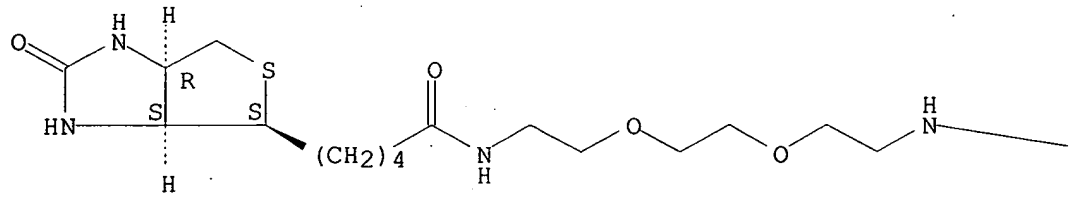
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:175116

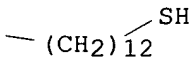
L7 ANSWER 38 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **269409-10-1** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-N-[2-[2-[2-[(12-mercaptododecyl)amino]ethoxy]ethoxy]ethyl]-2-oxo-, (3aS,4S,6aR)-(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C28 H54 N4 O4 S2
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

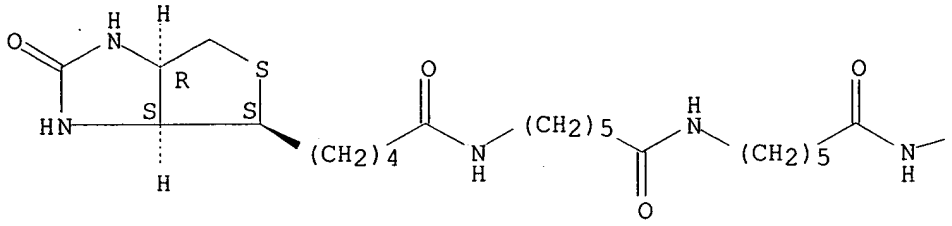
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

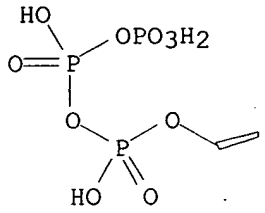
REFERENCE 1: 132:345119

L7 ANSWER 39 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **257298-01-4** REGISTRY
CN Triphosphoric acid, P-[[(2S,5R)-5-[4-[[4-[[6-[[6-[[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]amino]-1-oxohexyl]amino]-1-oxohexyl]amino]butyl]amino]-1H-pyrazolo[3,4-d]pyrimidin-1-yl]tetrahydro-2-furanyl]methyl] ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 373390-86-4, 373391-15-2
MF C36 H61 N10 O15 P3 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

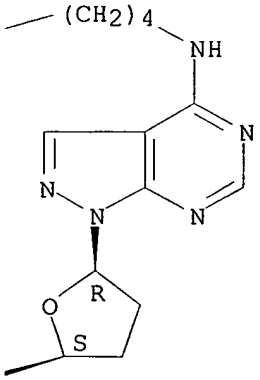
Absolute stereochemistry.

PAGE 1-A





PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:367666

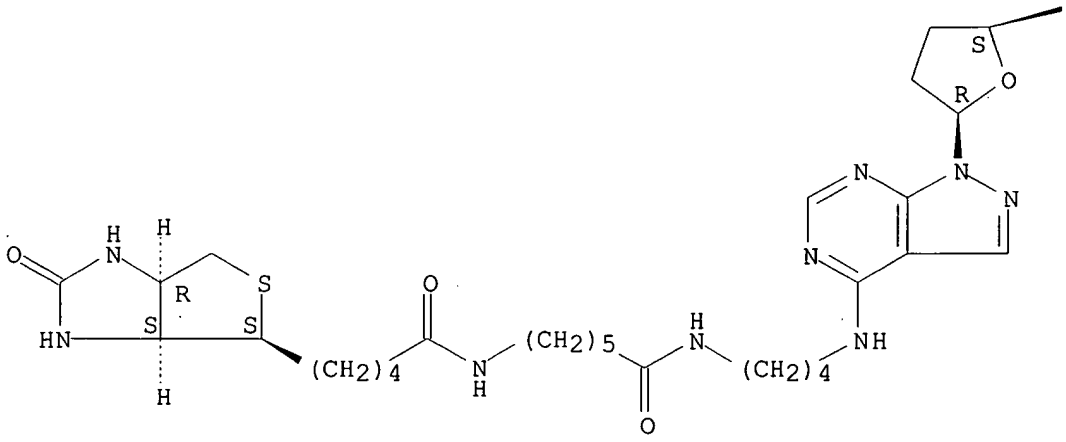
REFERENCE 2: 132:133201

Searcher : Shears 308-4994

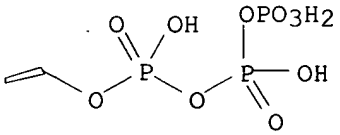
L7 ANSWER 40 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **257298-00-3** REGISTRY
CN Triphosphoric acid, P-[[(2S,5R)-5-[4-[[4-[[6-[[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]amino]-1-oxohexyl]amino]butyl]amino]-1H-pyrazolo[3,4-d]pyrimidin-1-yl]tetrahydro-2-furanyl]methyl] ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 373390-83-1, 373391-13-0
MF C30 H50 N9 O14 P3 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

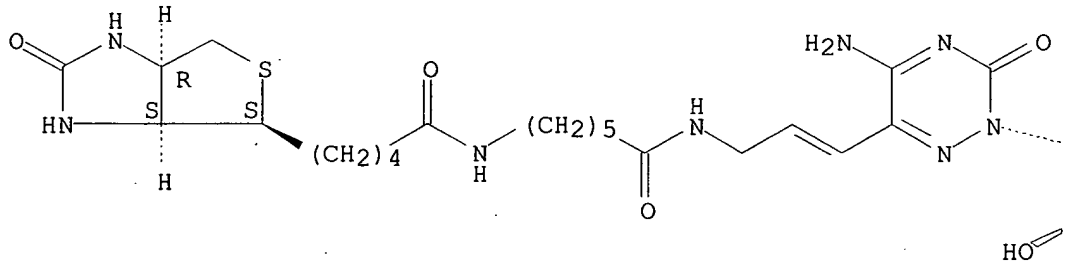
REFERENCE 1: 135:367666

REFERENCE 2: 132:133201

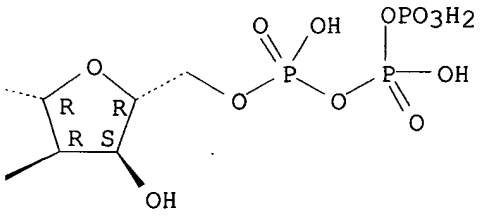
L7 ANSWER 41 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **257297-97-5** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[6-[[3-[5-amino-2-[5-O-[hydroxy[[hydroxy(phosphonooxy)phosphinyl]oxy]phosphinyl]-.beta.-D-ribofuranosyl]-2,3-dihydro-3-oxo-1,2,4-triazin-6-yl]-2-propenyl]amino]-6-oxohexyl]hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C27 H45 N8 O17 P3 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

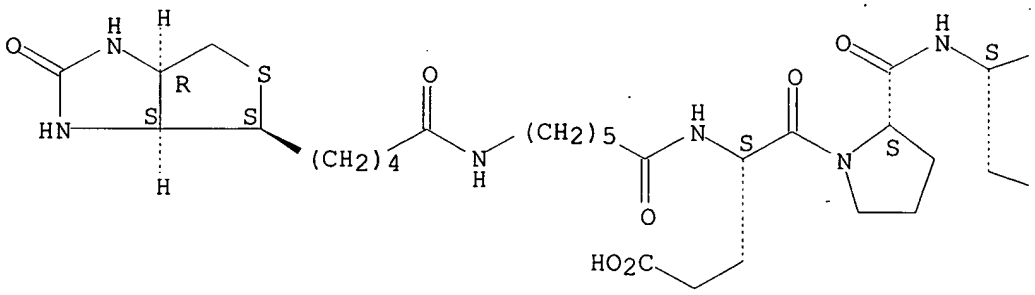
REFERENCE 1: 135:367666

REFERENCE 2: 132:133201

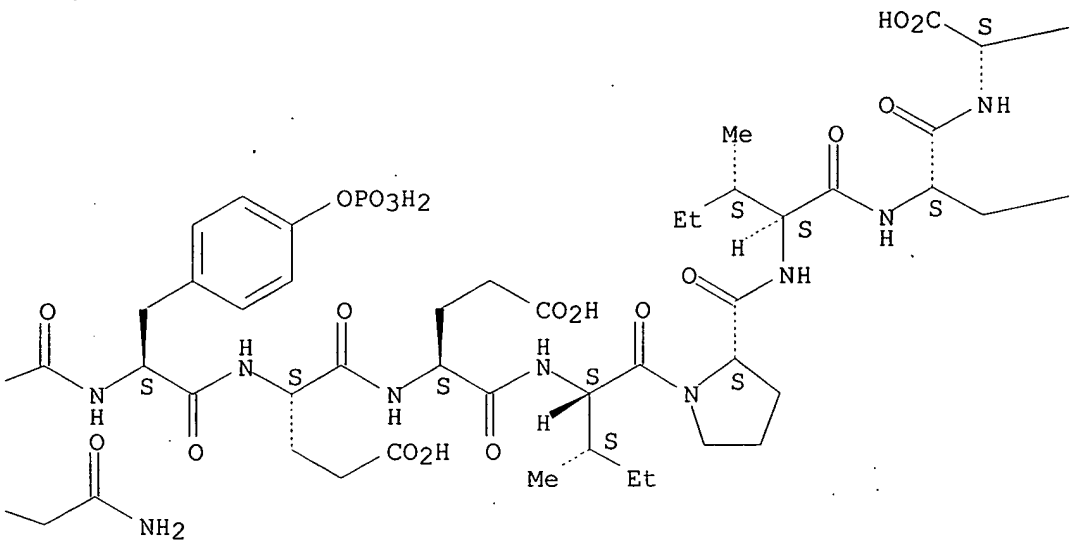
L7 ANSWER 47 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **215876-01-0** REGISTRY
CN L-Leucine, N-[6-[[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]amino]-1-oxohexyl]-L-.alpha.-glutamyl-L-prolyl-L-glutaminyl-O-phosphono-L-tyrosyl-L-.alpha.-glutamyl-L-.alpha.-glutamyl-L-isoleucyl-L-prolyl-L-isoleucyl-L-tyrosyl- (9CI)

(CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
DR 346599-42-6
MF C82 H122 N15 O27 P S
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS

Absolute stereochemistry.



PAGE 1-B



PAGE 1-C

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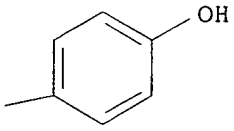


2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:77097

REFERENCE 2: 130:10262

L7 ANSWER 48 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **205249-98-5** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-2-oxo-N-[2-[2-[2-[(1-oxo-2-propenyl)amino]ethoxy]ethoxy]ethyl]-, (3aS,4S,6aR)-, polymer with N,N'-methylenebis[2-propenamide] and 2-propenamide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2-Propenamide, N,N'-methylenebis-, polymer with (3aS,4S,6aR)-hexahydro-2-oxo-N-[2-[2-[2-[(1-oxo-2-propenyl)amino]ethoxy]ethoxy]ethyl]-1H-thieno[3,4-d]imidazole-4-pentanamide and 2-propenamide (9CI)
CN 2-Propenamide, polymer with (3aS,4S,6aR)-hexahydro-2-oxo-N-[2-[2-[2-[(1-oxo-2-propenyl)amino]ethoxy]ethoxy]ethyl]-1H-thieno[3,4-d]imidazole-4-pentanamide and N,N'-methylenebis[2-propenamide] (9CI)

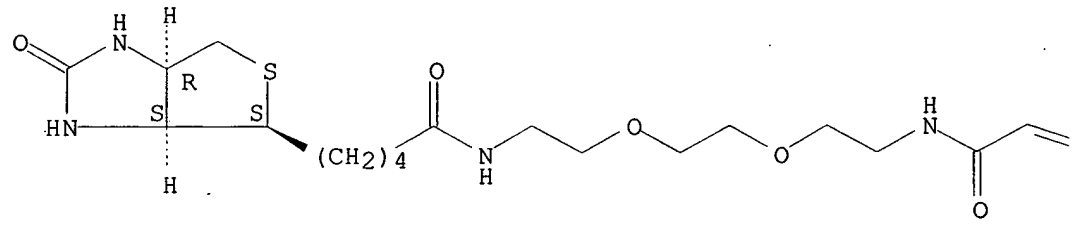
FS STEREOSEARCH
MF (C19 H32 N4 O5 S . C7 H10 N2 O2 . C3 H5 N O)x
CI PMS
PCT Polyacrylic
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

CM 1

CRN 175885-17-3
CMF C19 H32 N4 O5 S

Absolute stereochemistry.

PAGE 1-A

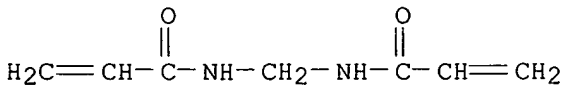


PAGE 1-B

$=CH_2$

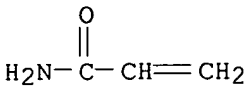
CM 2

CRN 110-26-9
CMF C7 H10 N2 O2



CM 3

CRN 79-06-1
CMF C3 H5 N O



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

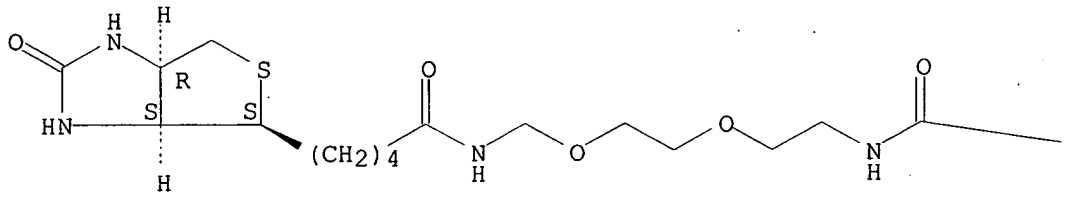
REFERENCE 1: 132:345119

REFERENCE 2: 128:254896

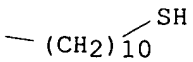
L7 ANSWER 49 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **201733-10-0** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-N-[[2-[2-[(11-mercapto-1-oxoundecyl)amino]ethoxy]ethoxy]methyl]-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C26 H48 N4 O5 S2
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:210048

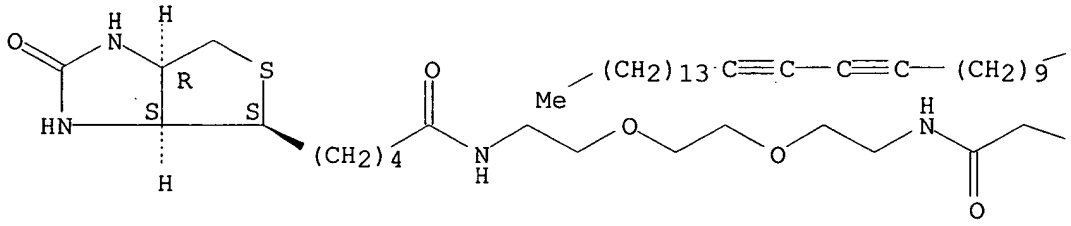
REFERENCE 2: 128:112506

L7 ANSWER 50 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **198898-34-9** REGISTRY

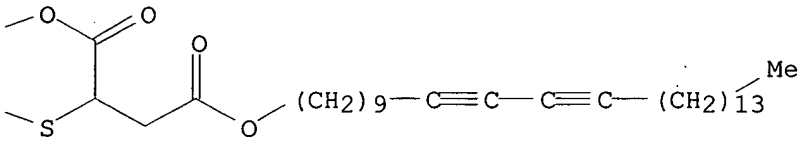
CN Butanedioic acid, [[17-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-2,13-dioxo-6,9-dioxa-3,12-diazaheptadec-1-yl]thio]-, bis(10,12-heptacosadiynyl) ester, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-[partial]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C76 H128 N4 O9 S2
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:1330

L7 ANSWER 53 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **183052-18-8** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-2-oxo-N-[3-[2-[2-[(1-oxo-2-propenyl)amino]ethoxy]ethoxy]propyl]-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-, polymer with N-(1-oxo-2-propenyl)-2-propenamide and 2-propenamide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2-Propenamide, N-(1-oxo-2-propenyl)-, polymer with [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-hexahydro-2-oxo-N-[3-[2-[2-[(1-oxo-2-propenyl)amino]ethoxy]ethoxy]propyl]-1H-thieno[3,4-d]imidazole-4-pentanamide and 2-propenamide (9CI)
CN 2-Propenamide, polymer with [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-hexahydro-2-oxo-N-[3-[2-[2-[(1-oxo-2-propenyl)amino]ethoxy]ethoxy]propyl]-1H-thieno[3,4-d]imidazole-4-pentanamide and N-(1-oxo-2-propenyl)-2-propenamide (9CI)
FS STEREOSEARCH
MF (C20 H34 N4 O5 S . C6 H7 N O2 . C3 H5 N O)x

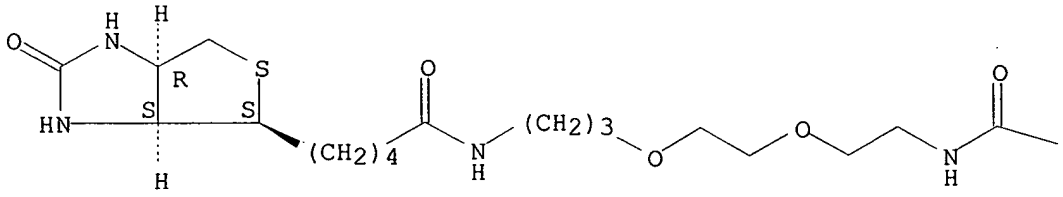
CI PMS
PCT Polyacrylic
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

CM 1

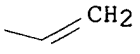
CRN 183052-17-7
CMF C20 H34 N4 O5 S

Absolute stereochemistry.

PAGE 1-A

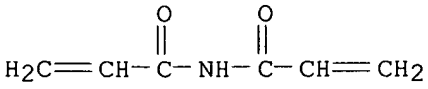


PAGE 1-B



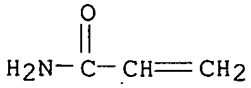
CM 2

CRN 20602-80-6
CMF C6 H7 N O2



CM 3

CRN 79-06-1
CMF C3 H5 N O



1 REFERENCES IN FILE CA (1967 TO DATE)

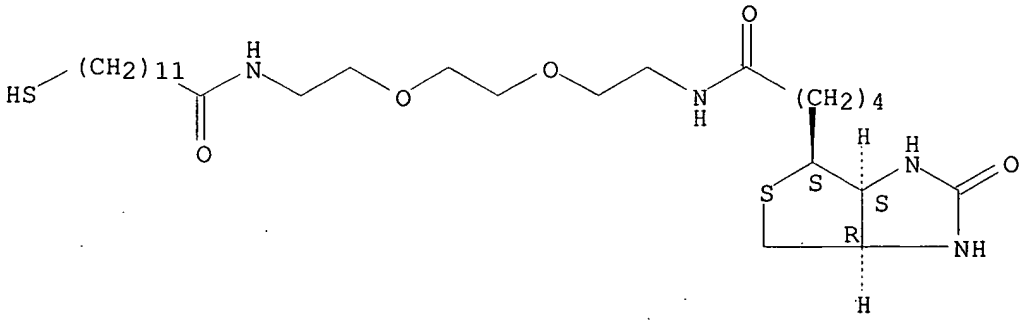
Searcher : Shears 308-4994

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 125:322311

L7 ANSWER 54 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **148913-95-5** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-N-[2-[2-[2-[(12-mercapto-1-oxododecyl)amino]ethoxy]ethoxy]ethyl]-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-N-[2-[2-[2-[(12-mercapto-1-oxododecyl)amino]ethoxy]ethoxy]ethyl]-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
FS STEREOSEARCH
MF C28 H52 N4 O5 S2
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

15 REFERENCES IN FILE CA (1967 TO DATE)
15 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:259415

REFERENCE 2: 136:217362

REFERENCE 3: 136:163444

REFERENCE 4: 135:269530

REFERENCE 5: 134:2170

REFERENCE 6: 132:20781

REFERENCE 7: 131:181353

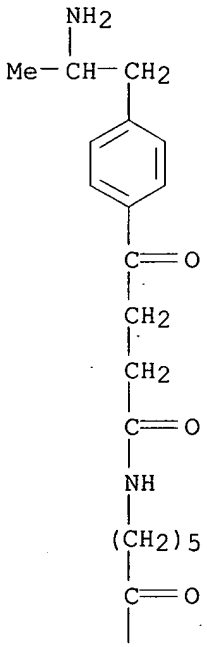
REFERENCE 8: 130:135875

REFERENCE 9: 129:310180

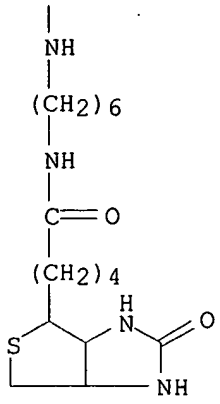
REFERENCE 10: 128:221947

L7 ANSWER 55 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **148225-26-7** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[6-[[6-[[4-[4-(2-aminopropyl)phenyl]-1,4-dioxobutyl]amino]-1-oxohexyl]amino]hexyl]hexahydro-2-oxo- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C35 H56 N6 O5 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

PAGE 1-A



PAGE 2-A



Searcher : Shears 308-4994

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

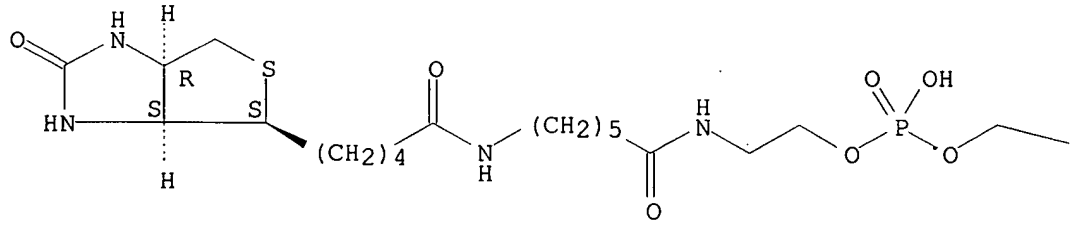
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

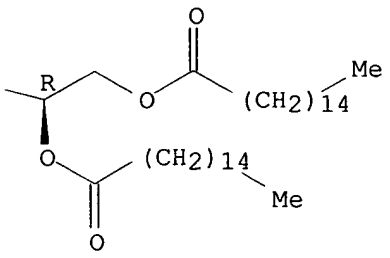
REFERENCE 1: 119:22344

L7 ANSWER 57 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **144125-61-1** REGISTRY
CN Hexadecanoic acid, (1R)-1-[19-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-3-hydroxy-3-oxido-8,15-dioxo-2,4-dioxa-7,14-diaza-3-phosphanonadec-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole, hexadecanoic acid deriv.
CN Hexadecanoic acid, 1-[19-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-3-hydroxy-8,15-dioxo-2,4-dioxa-7,14-diaza-3-phosphanonadec-1-yl]-1,2-ethanediyl ester, P-oxide, [3aS-[3a.alpha.,4.beta.(S*),6a.alpha.]]-
OTHER NAMES:
CN Hexadecanoic acid, 1-[19-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-3-hydroxy-3-oxido-8,15-dioxo-2,4-dioxa-7,14-diaza-3-phosphanonadec-1-yl]-1,2-ethanediyl ester, [3aS-[3a.alpha.,4.beta.(S*),6a.alpha.]]-
FS STEREOSEARCH
MF C53 H99 N4 O11 P S
CI COM
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.

PAGE 1-A





PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

11 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
11 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:128172

REFERENCE 2: 132:218617

REFERENCE 3: 131:348028

REFERENCE 4: 131:254402

REFERENCE 5: 131:239998

REFERENCE 6: 126:141778

REFERENCE 7: 124:111630

REFERENCE 8: 121:151679

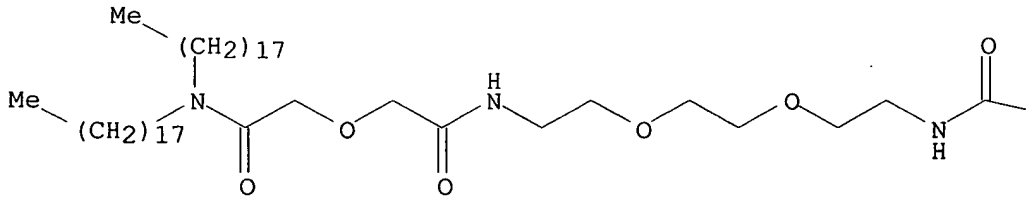
REFERENCE 9: 120:185567

REFERENCE 10: 119:243945

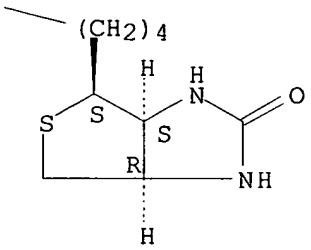
L7 ANSWER 58 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **142260-90-0** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-N-(15-octadecyl-10,14-dioxo-3,6,12-trioxa-9,15-diazatritriacont-1-yl)-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C56 H107 N5 O7 S
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

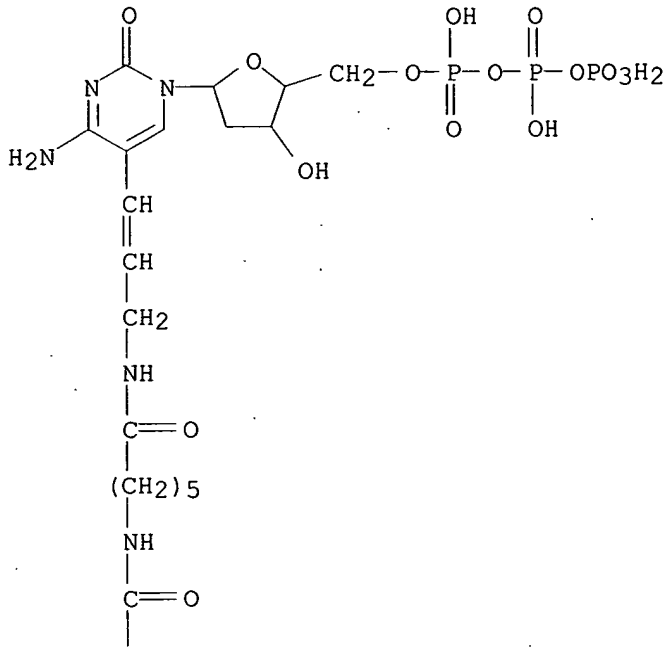
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:1330

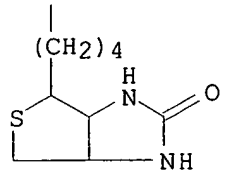
REFERENCE 2: 117:107730

L7 ANSWER 59 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **136632-30-9** REGISTRY
CN Cytidine 5'-(tetrahydrogen triphosphate), 2'-deoxy-5-[(1E)-3-[[6-[[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]amino]-1-oxohexyl]amino]-1-propenyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole, cytidine 5'-(tetrahydrogen triphosphate) (9CI)
CN Cytidine 5'-(tetrahydrogen triphosphate), 2'-deoxy-5-[3-[[6-[[5-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-1-oxopentyl]amino]-1-oxohexyl]amino]-1-propenyl]-, [3aS-[3a.alpha.,4.beta.(E),6a.alpha.]]-
OTHER NAMES:
CN Biotin-11-dCTP
CN Biotinyl-11-dCTP
MF C28 H46 N7 O16 P3 S
SR CAS Registry Services
LC STN Files: CA, CAPLUS, CHEMCATS

PAGE 1-A



PAGE 2-A



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:80454

REFERENCE 2: 125:213561

REFERENCE 3: 117:3683

L7 ANSWER 60 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **136235-58-0** REGISTRY
CN Hexadecanoic acid, 1-[12-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-3-hydroxy-3-oxido-8-oxo-2,4-dioxa-7-aza-3-phosphadodec-1-yl]-1,2-ethanediyl ester, [3aS-[3a.alpha.,4.beta.(S*),6a.alpha.]]-, compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

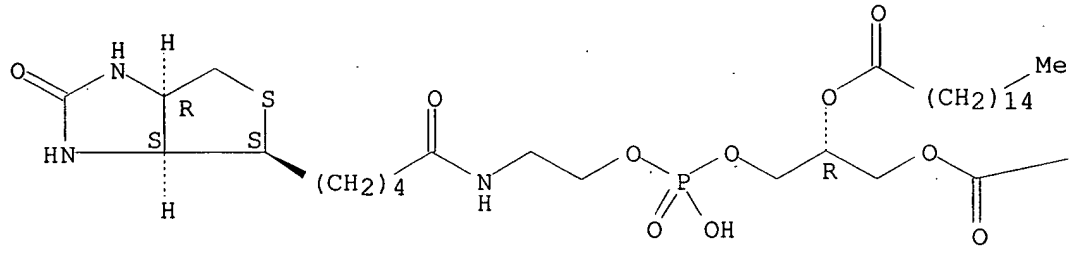
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole, hexadecanoic acid deriv.
CN Hexadecanoic acid, 1-[12-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-3-hydroxy-8-oxo-2,4-dioxa-7-aza-3-phosphadodec-1-yl]-1,2-ethanediyl ester, P-oxide, [3aS-[3a.alpha.,4.beta.(S*),6a.alpha.]]-, compd. with N,N-diethylethanamine (1:1)
FS STEREOSEARCH
MF C47 H88 N3 O10 P S . C6 H15 N
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS

CM 1

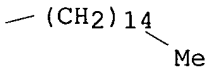
CRN 116643-36-8
CMF C47 H88 N3 O10 P S

Absolute stereochemistry.

PAGE 1-A

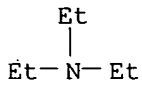


PAGE 1-B



CM 2

CRN 121-44-8
CMF C6 H15 N



5 REFERENCES IN FILE CA (1967 TO DATE)
5 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 120:264907

REFERENCE 2: 119:111727

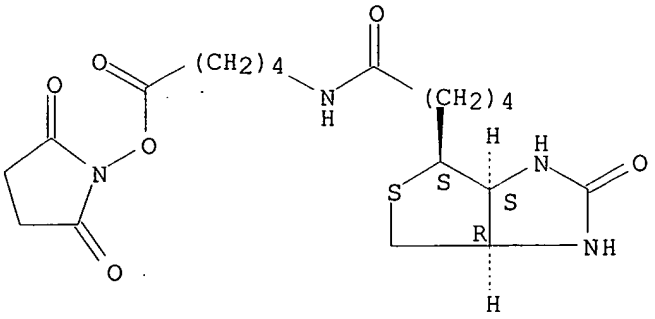
REFERENCE 3: 118:55396

REFERENCE 4: 117:229324

REFERENCE 5: 115:154244

L7 ANSWER 61 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **133117-37-0** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[5-[(2,5-dioxo-1-pyrrolidinyl)oxy]-5-oxopentyl]hexahydro-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C19 H28 N4 O6 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

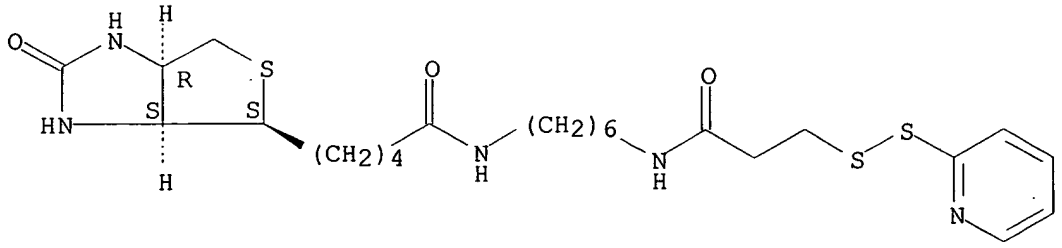
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 127:158793

REFERENCE 2: 114:162292

L7 ANSWER 62 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **129179-83-5** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-2-oxo-N-[6-[[1-oxo-3-(2-pyridinyldithio)propyl]amino]hexyl]-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, hexahydro-2-oxo-N-[6-[[1-oxo-3-(2-pyridinyldithio)propyl]amino]hexyl]-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
FS STEREOSEARCH
MF C24 H37 N5 O3 S3
SR CA
LC STN Files: CA, CAPLUS, CHEMCATS

Absolute stereochemistry. Rotation (+).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

11 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
11 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:163444

REFERENCE 2: 136:50195

REFERENCE 3: 136:15870

REFERENCE 4: 134:163279

REFERENCE 5: 133:219725

REFERENCE 6: 130:78208

REFERENCE 7: 129:38343

REFERENCE 8: 120:239410

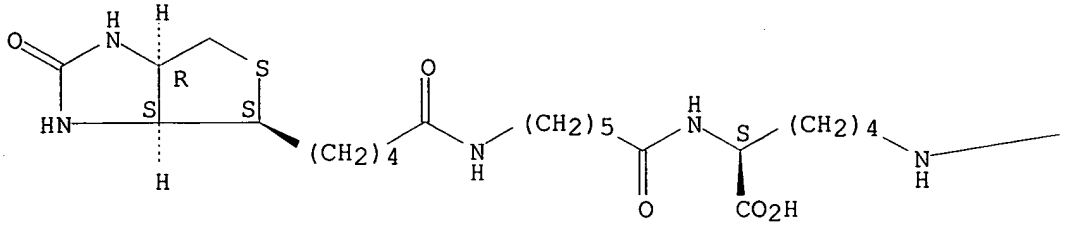
REFERENCE 9: 120:238787

REFERENCE 10: 119:225873

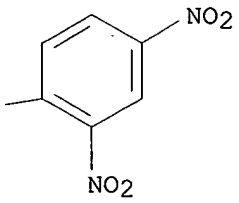
L7 ANSWER 63 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **128395-62-0** REGISTRY
CN L-Lysine, N6-(2,4-dinitrophenyl)-N2-[6-[[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]amino]-1-oxohexyl]-(9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole, L-lysine deriv.
CN L-Lysine, N6-(2,4-dinitrophenyl)-N2-[6-[[5-(hexahydro-2-oxo-1H-thieno[3,4-D]imidazol-4-yl)-1-oxopentyl]amino]-1-oxohexyl]-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
FS STEREOSEARCH
MF C28 H41 N7 O9 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

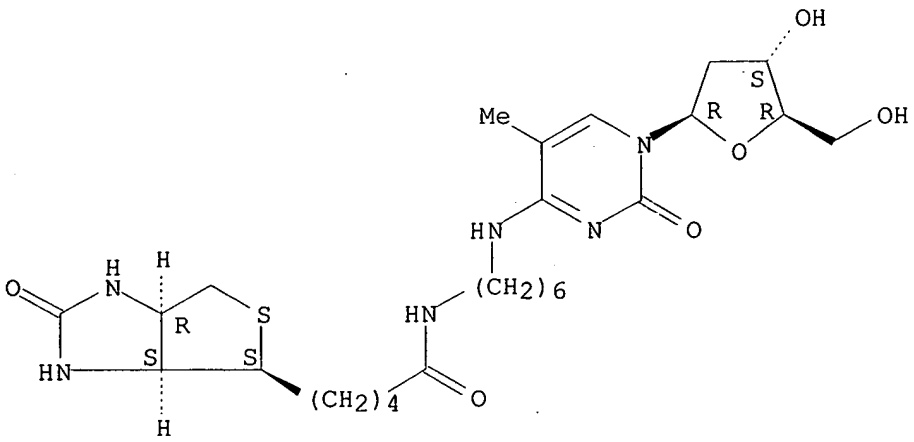
REFERENCE 1: 131:23989

REFERENCE 2: 122:234820

REFERENCE 3: 113:150197

L7 ANSWER 64 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **128161-43-3** REGISTRY
CN Cytidine, 2'-deoxy-N-[6-[[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]amino]hexyl]-5-methyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole, cytidine deriv.
CN Cytidine, 2'-deoxy-N-[6-[[5-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-1-oxopentyl]amino]hexyl]-5-methyl-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
OTHER NAMES:
CN 4-N-(6-Biotinamidohexyl)-5-methyl-2'-deoxycytidine
FS STEREOSEARCH
MF C26 H42 N6 O6 S
SR CA
LC STN Files: CA, CAPLUS, CASREACT

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

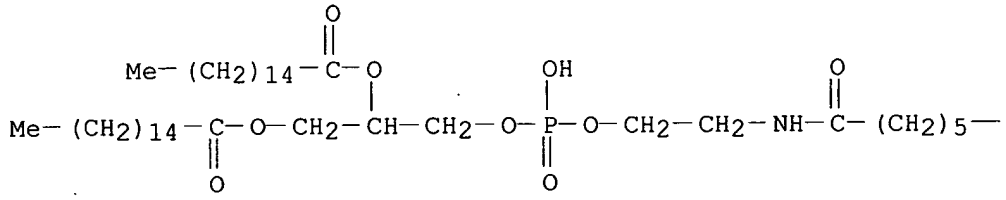
REFERENCE 1: 132:75486

REFERENCE 2: 114:185941

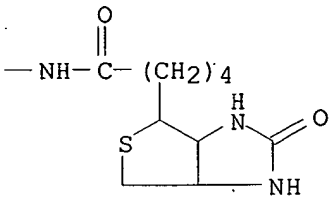
REFERENCE 3: 113:59784

L7 ANSWER 65 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **119830-81-8** REGISTRY
CN Hexadecanoic acid, 1-[19-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-3-hydroxy-3-oxido-8,15-dioxo-2,4-dioxa-7,14-diaza-3-phosphanonadec-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole, hexadecanoic acid deriv.
CN Hexadecanoic acid, 1-[19-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-3-hydroxy-8,15-dioxo-2,4-dioxa-7,14-diaza-3-phosphanonadec-1-yl]-1,2-ethanediyl ester, P-oxide
OTHER NAMES:
CN Dipalmitoylbiotinylamidocaproylethanolamine
FS 3D CONCORD
DR 154274-91-6
MF C53 H99 N4 O11 P S
SR CA
LC STN Files: CA, CAPLUS

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

5 REFERENCES IN FILE CA (1967 TO DATE)
5 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 123:4860

REFERENCE 2: 120:238496

REFERENCE 3: 119:198067

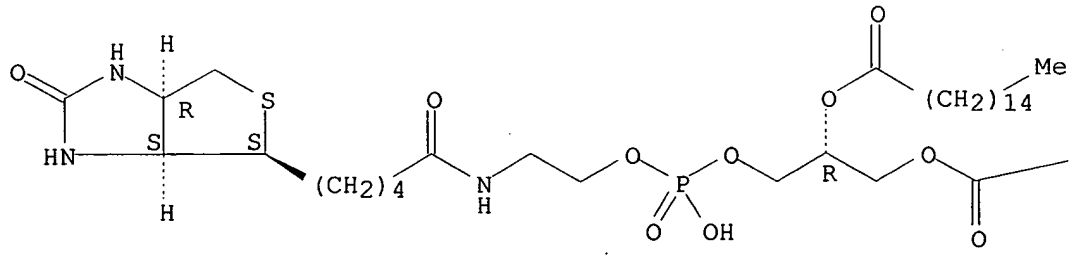
REFERENCE 4: 117:166138

REFERENCE 5: 110:160325

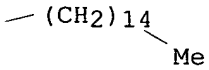
L7 ANSWER 66 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **116643-36-8** REGISTRY
CN Hexadecanoic acid, (1R)-1-[12-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-3-hydroxy-3-oxido-8-oxo-2,4-dioxa-7-aza-3-phosphadodec-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole, hexadecanoic acid deriv.
CN Hexadecanoic acid, 1-[12-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-3-hydroxy-8-oxo-2,4-dioxa-7-aza-3-phosphadodec-1-yl]-1,2-ethanediyl ester, P-oxide, [3aS-[3a.alpha.,4.beta.(S*),6a.alpha.]]-
FS STEREOSEARCH
DR 147341-86-4
MF C47 H88 N3 O10 P S
CI COM
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

17 REFERENCES IN FILE CA (1967 TO DATE)
17 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:98163

REFERENCE 2: 134:300793

REFERENCE 3: 127:148085

REFERENCE 4: 126:86819

REFERENCE 5: 123:28161

REFERENCE 6: 122:3989

REFERENCE 7: 121:76625

REFERENCE 8: 120:37930

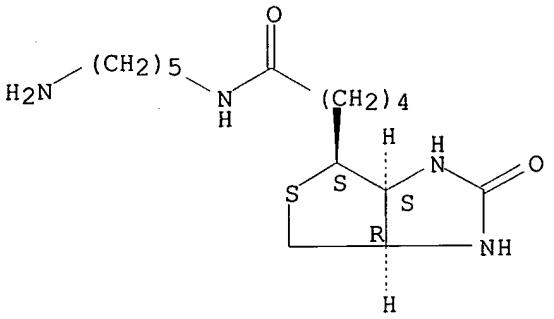
REFERENCE 9: 119:243945

REFERENCE 10: 119:198064

L7 ANSWER 67 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **115416-38-1** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-(5-aminopentyl)hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-(5-aminopentyl)hexahydro-

2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
OTHER NAMES:
CN 5-(Biotinamido)pentylamine
CN Biotinyl cadaverine
CN N-(5-Aminopentyl)biotinamide
FS STEREOSEARCH
MF C15 H28 N4 O2 S
CI COM
SR CA
LC STN Files: BIOSIS, CA, CANCERLIT, CAPLUS, CASREACT, CHEMCATS, MEDLINE, TOXCENTER, USPAT2, USPATFULL

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

53 REFERENCES IN FILE CA (1967 TO DATE)
6 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
54 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:232548

REFERENCE 2: 135:315598

REFERENCE 3: 135:315597

REFERENCE 4: 135:59480

REFERENCE 5: 135:16371

REFERENCE 6: 135:16295

REFERENCE 7: 134:349781

REFERENCE 8: 134:252583

REFERENCE 9: 134:204239

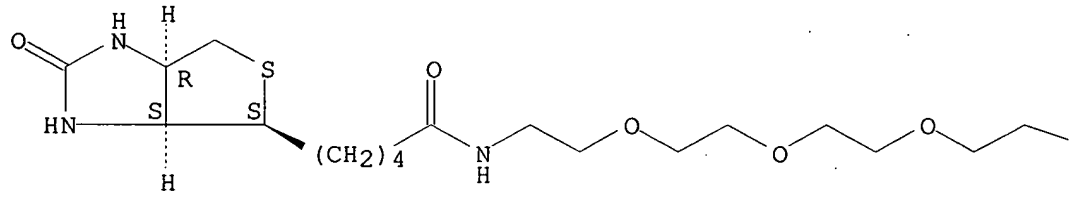
REFERENCE 10: 134:36067

L7 ANSWER 68 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **113922-69-3** REGISTRY

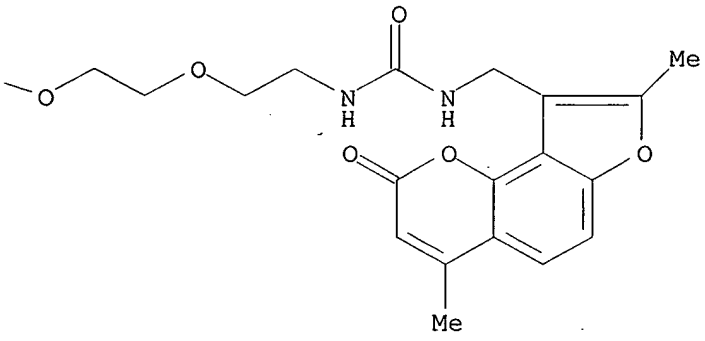
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[21-(4,8-dimethyl-2-oxo-2H-furo[2,3-h]-1-benzopyran-9-yl)-19-oxo-3,6,9,12,15-pentaoxa-18,20-diazaheneicos-1-yl]hexahydro-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2H-Furo[2,3-h]-1-benzopyran, 1H-thieno[3,4-d]imidazole-4-pentanamide deriv.
FS STEREOSEARCH
MF C37 H53 N5 O11 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 114:78227

REFERENCE 2: 111:130176

REFERENCE 3: 110:227886

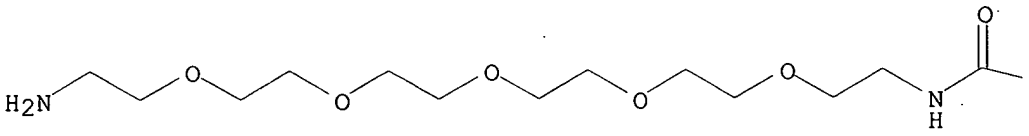
REFERENCE 4: 108:164418

L7 ANSWER 69 OF 79 REGISTRY COPYRIGHT 2002 ACS

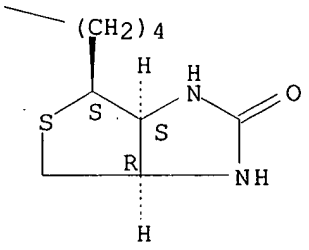
RN **113072-75-6** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-(17-amino-3,6,9,12,15-pentaoxaheptadec-1-yl)hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-(17-amino-3,6,9,12,15-pentaoxaheptadec-1-yl)hexahydro-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
FS STEREOSEARCH
MF C22 H42 N4 O7 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

10 REFERENCES IN FILE CA (1967 TO DATE)
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10 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:15073

REFERENCE 2: 133:233563

REFERENCE 3: 114:78227

REFERENCE 4: 111:150062

REFERENCE 5: 111:130176

REFERENCE 6: 110:227886

REFERENCE 7: 109:3204

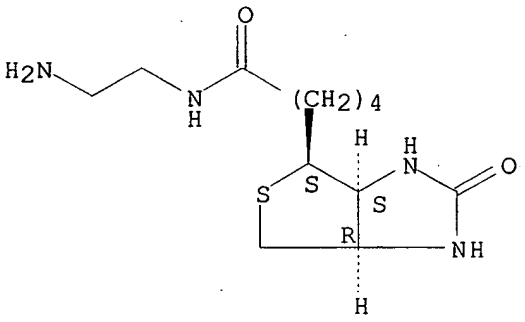
REFERENCE 8: 108:183297

REFERENCE 9: 108:164418

REFERENCE 10: 108:109217

L7 ANSWER 70 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **111790-37-5** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-(2-aminoethyl)hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-(2-aminoethyl)hexahydro-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
FS STEREOSEARCH
MF C12 H22 N4 O2 S
CI COM
SR CA
LC STN Files: CA, CAPLUS, CASREACT, MEDLINE, TOXCENTER, USPATFULL

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

22 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
22 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:38877

REFERENCE 2: 133:304860

REFERENCE 3: 133:177452

REFERENCE 4: 133:150415

REFERENCE 5: 133:54572

REFERENCE 6: 132:347685

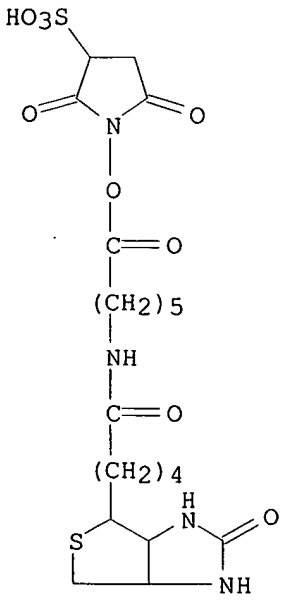
REFERENCE 7: 132:156840

REFERENCE 8: 131:41448

REFERENCE 9: 131:2349

REFERENCE 10: 129:250213

L7 ANSWER 71 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **109940-19-4** REGISTRY
CN 3-Pyrrolidinesulfonic acid, 1-[[6-[[5-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-1-oxopentyl]amino]-1-oxohexyl]oxy]-2,5-dioxo- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole, 3-pyrrolidinesulfonic acid deriv.
OTHER NAMES:
CN Sulfosuccinimidyl-6-(biotinamido)hexanoate
FS 3D CONCORD
DR 131749-56-9
MF C20 H30 N4 O9 S2
CI COM
SR CAS Registry Services
LC STN Files: BIOSIS, CA, CANCERLIT, CAPLUS, CHEMCATS, CSCHEM, MEDLINE, TOXCENTER, USPAT2, USPATFULL



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

51 REFERENCES IN FILE CA (1967 TO DATE)
11 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
51 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:305459

REFERENCE 2: 132:10462

REFERENCE 3: 129:287403

REFERENCE 4: 129:286476

REFERENCE 5: 129:106256

REFERENCE 6: 127:132721

REFERENCE 7: 126:303398

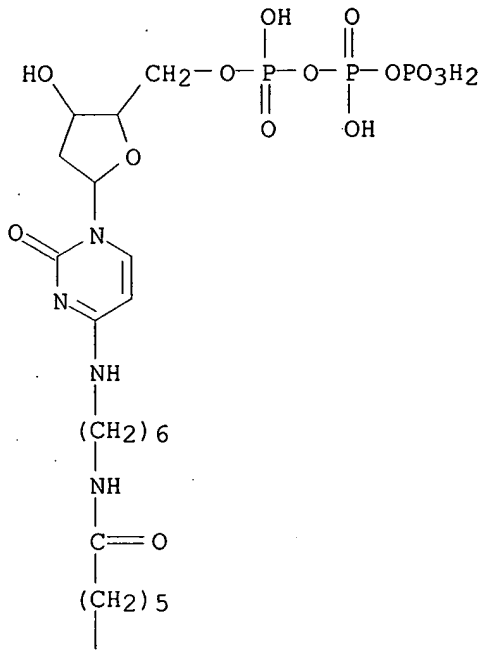
REFERENCE 8: 125:269242

REFERENCE 9: 124:337353

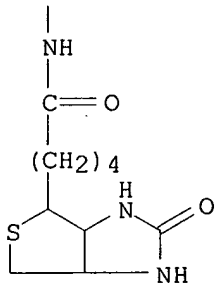
REFERENCE 10: 124:225379

L7 ANSWER 72 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **106519-39-5** REGISTRY
CN Cytidine 5'-(tetrahydrogen triphosphate), 2'-deoxy-N-[6-[[6-[[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]amino]-1-oxohexyl]amino]hexyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole, cytidine 5'-(tetrahydrogen triphosphate) deriv.
CN Cytidine 5'-(tetrahydrogen triphosphate), 2'-deoxy-N-[6-[[6-[[5-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-1-oxopentyl]amino]-1-oxohexyl]amino]hexyl]-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
MF C31 H54 N7 O16 P3 S
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

PAGE 1-A



PAGE 2-A



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 133:115883

REFERENCE 2: 119:132387

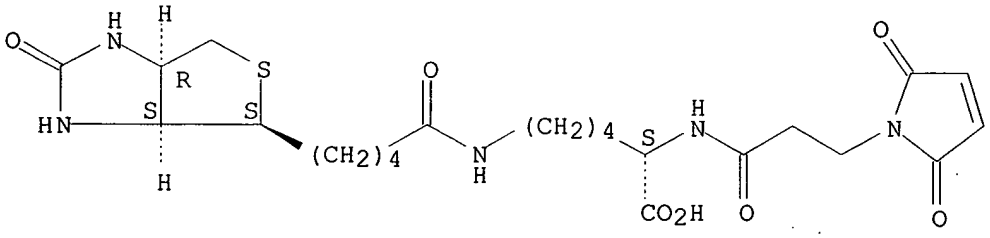
REFERENCE 3: 107:150581

REFERENCE 4: 106:64031

Searcher : Shears 308-4994

L7 ANSWER 73 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **102849-12-7** REGISTRY
CN L-Lysine, N2-[3-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-1-oxopropyl]-N6-[5-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole, L-lysine deriv.
CN L-Lysine, N2-[3-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-1-oxopropyl]-N6-[5-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-1-oxopentyl]-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
OTHER NAMES:
CN 3-(N-Maleimidopropionyl)biocytin
FS STEREOSEARCH
DR 98930-71-3, 227091-00-1, 349460-71-5
MF C23 H33 N5 O7 S
SR CA
LC STN Files: AGRICOLA, BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS, CSCHEM, MEDLINE, TOXCENTER, USPATFULL

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

17 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
17 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:104688

REFERENCE 2: 135:16333

REFERENCE 3: 132:247807

REFERENCE 4: 132:177339

REFERENCE 5: 131:239992

REFERENCE 6: 131:196325

REFERENCE 7: 131:41448

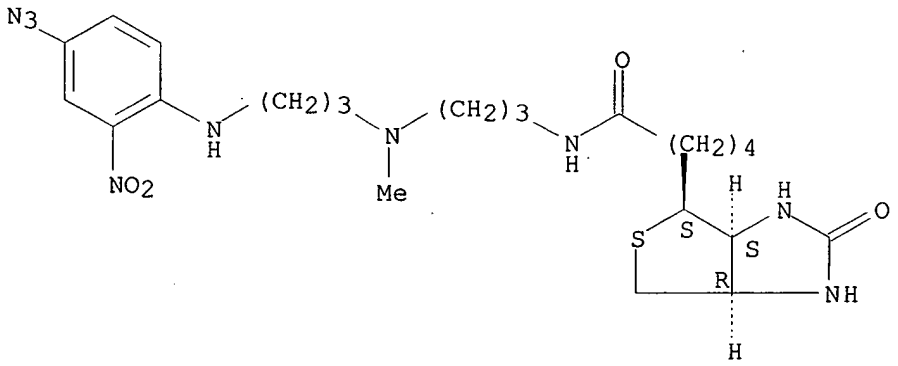
REFERENCE 8: 130:234081

REFERENCE 9: 128:125857

REFERENCE 10: 128:115156

L7 ANSWER 74 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **96087-37-5** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[3-[[3-[(4-azido-2-nitrophenyl)amino]propyl]methylamino]propyl]hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[3-[[3-[(4-azido-2-nitrophenyl)amino]propyl]methylamino]propyl]hexahydro-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
OTHER NAMES:
CN Photobiotin
FS STEREOSEARCH
MF C23 H35 N9 O4 S
CI COM
LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, CA, CAPLUS, CHEMCATS, CIN, MEDLINE, PROMT, TOXCENTER, USPATFULL

Absolute stereochemistry.



66 REFERENCES IN FILE CA (1967 TO DATE)
14 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
66 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:196336

REFERENCE 2: 136:98525

REFERENCE 3: 135:253928

REFERENCE 4: 134:323072

REFERENCE 5: 133:205074

REFERENCE 6: 133:190005

REFERENCE 7: 132:162961

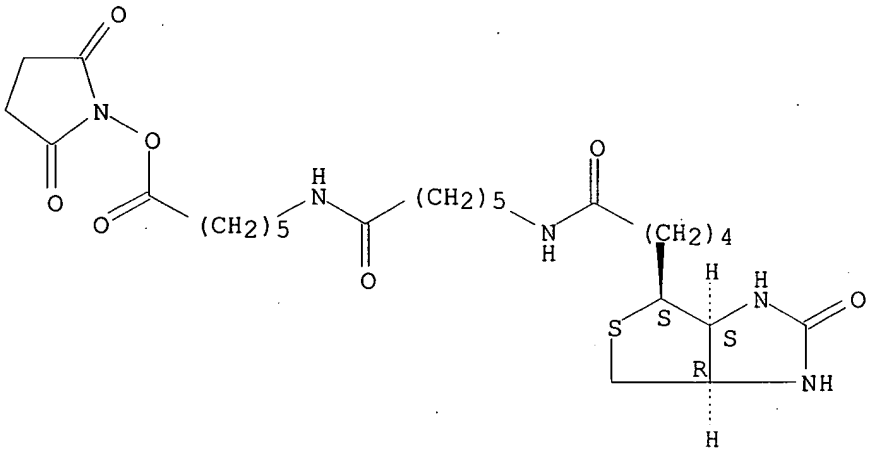
REFERENCE 8: 132:132860

REFERENCE 9: 132:94700

REFERENCE 10: 130:249083

L7 ANSWER 75 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **89889-52-1** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[6-[[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]amino]-6-oxohexyl]hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[6-[[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]amino]-6-oxohexyl]hexahydro-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
OTHER NAMES:
CN Biotin-XX,SE
CN Biotin-XX-NHS
CN Molecular Probes B 1606
FS STEREOSEARCH
MF C26 H41 N5 O7 S
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, CSCHEM, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

31 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
31 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 135:367666

REFERENCE 2: 135:227203

REFERENCE 3: 135:192476

REFERENCE 4: 135:159952

REFERENCE 5: 135:104688

REFERENCE 6: 134:261272

REFERENCE 7: 134:97519

REFERENCE 8: 132:133201

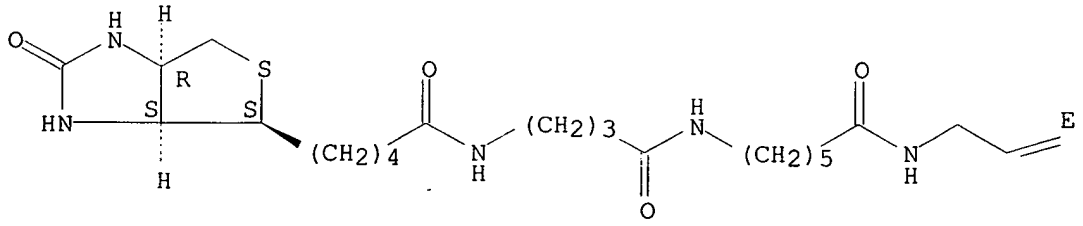
REFERENCE 9: 132:108282

REFERENCE 10: 131:299679

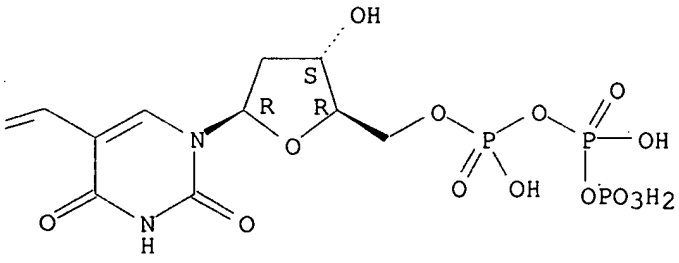
L7 ANSWER 76 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **86303-26-6** REGISTRY
CN Uridine 5'-(tetrahydrogen triphosphate), 2'-deoxy-5-[3-[[6-[[4-[[5-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-1-oxopentyl]amino]-1-oxobutyl]amino]-1-oxohexyl]amino]-1-propenyl]-, [3aS-[3a.alpha.,4.beta.(E),6a.alpha.]]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole, uridine 5'-(tetrahydrogen triphosphate) deriv.
OTHER NAMES:
CN Biotin-16-dUTP
FS STEREOSEARCH
DR 126320-26-1, 136632-31-0
MF C32 H52 N7 O18 P3 S
LC STN Files: BIOSIS, CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

19 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
19 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:235824

REFERENCE 2: 136:15761

REFERENCE 3: 135:339932

REFERENCE 4: 135:43105

REFERENCE 5: 134:66836

REFERENCE 6: 132:1798

REFERENCE 7: 131:332709

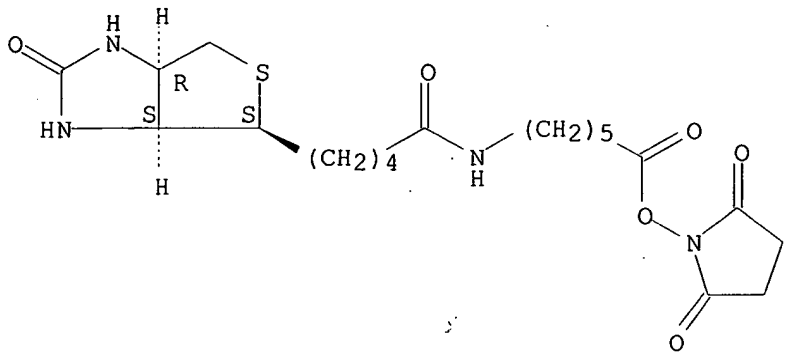
REFERENCE 8: 131:282370

REFERENCE 9: 131:239754

REFERENCE 10: 130:193871

L7 ANSWER 78 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **72040-63-2** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]hexahydro-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
OTHER NAMES:
CN D-(+)-Biotinyl-.epsilon.-aminocaproic acid N-hydroxysuccimide ester
CN N-Hydroxysuccinimidyl 6-(biotinamido)hexanoate
CN N-Hydroxysuccinimidyl biotinamidocaproate
CN N-[5-(Succinimidyloxycarbonyl)pentyl]biotin amide
CN NHS-LC-biotin
CN Succinimidyl-6-(biotinamido) hexanoate
FS STEREOSEARCH
DR 164786-26-9, 121112-83-2, 96890-18-5
MF C20 H30 N4 O6 S
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, CSCHEM, MEDLINE, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (+).



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

251 REFERENCES IN FILE CA (1967 TO DATE)
49 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
251 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:263292

REFERENCE 2: 136:149304

REFERENCE 3: 136:135035

REFERENCE 4: 136:95615

REFERENCE 5: 136:79724

REFERENCE 6: 136:17690

REFERENCE 7: 135:367666

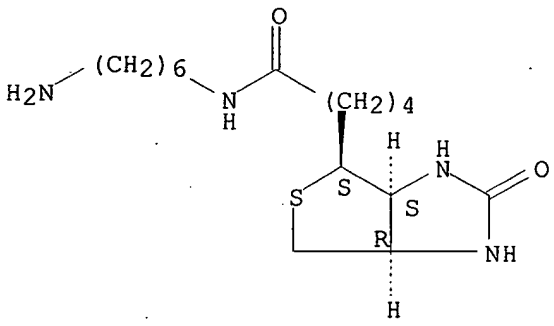
REFERENCE 8: 135:328959

REFERENCE 9: 135:300662

REFERENCE 10: 135:253592

L7 ANSWER 79 OF 79 REGISTRY COPYRIGHT 2002 ACS
RN **65953-56-2** REGISTRY
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-(6-aminohexyl)hexahydro-2-oxo-, (3aS,4S,6aR)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 1H-Thieno[3,4-d]imidazole-4-pentanamide, N-(6-aminohexyl)hexahydro-2-oxo-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]-
FS STEREOSEARCH
MF C16 H30 N4 O2 S
CI COM
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

17 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
17 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:131758

REFERENCE 2: 132:262407

REFERENCE 3: 131:253797

REFERENCE 4: 131:130274

REFERENCE 5: 130:311521

REFERENCE 6: 130:223572

REFERENCE 7: 126:305720

REFERENCE 8: 126:301783

REFERENCE 9: 121:151931

REFERENCE 10: 120:128934

[redacted]' ENTERED AT 11:33:59 ON 22 MAY 2002
L8 0 S L7

([redacted]LL' ENTERED AT 11:34:07 ON 22 MAY 2002)
L9 199 S L7
L10 69 S L9 AND ?ARRAY?
L11 4 S L10 AND (PROTEOM? OR PEPTIDOMIMET?)

L11 ANSWER 1 OF 4 USPATFULL
ACCESSION NUMBER: 2002:85154 USPATFULL
TITLE: **Proteomic** analysis
INVENTOR(S): Cravatt, Benjamin F., La Jolla, CA, UNITED STATES
Sorensen, Erik, San Diego, CA, UNITED STATES
Patricelli, Matthew P., San Diego, CA, UNITED STATES
Lovato, Martha, San Diego, CA, UNITED STATES
Adam, Gregory, San Diego, CA, UNITED STATES

Searcher : Shears 308-4994

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002045194	A1	20020418
APPLICATION INFO.:	US 2000-738954	A1	20001215 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-195954P	20000410 (60)
	US 2000-212891P	20000620 (60)
	US 2000-222532P	20000802 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Lisa A. Haile, Ph.D., Gray Cary Ware & Freidenrich LLP, Suite 1600, 4365 Executive Drive, San Diego, CA, 92121-2189
NUMBER OF CLAIMS: 31
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 24 Drawing Page(s)
LINE COUNT: 3728
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods for analyzing **proteomes**, as cells or lysates. The analysis is based on the use of probes that have specificity to the active form of proteins, particularly enzymes and receptors. The probes can be identified in different ways. In accordance with the present invention, a method is provided for generating and screening compound libraries that are used for the identification of lead molecules, and for the parallel identification of their biological targets. By appending specific functionalities and/or groups to one or more binding moieties, the reactive functionalities gain binding affinity and specificity for particular proteins and classes of proteins. Such libraries of candidate compounds, referred to herein as activity-based probes, or ABPs, are used to screen for one or more desired biological activities or target proteins.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 2 OF 4 USPATFULL
ACCESSION NUMBER: 2002:73134 USPATFULL
TITLE: **Proteomic** analysis
INVENTOR(S): Cravatt, Benjamin F., La Jolla, CA, UNITED STATES
Sorensen, Erik, San Diego, CA, UNITED STATES
Patricelli, Matthew P., San Diego, CA, UNITED STATES
Lovato, Martha, San Diego, CA, UNITED STATES
Adam, Gregory, San Diego, CA, UNITED STATES
PATENT ASSIGNEE(S): The Scripps Research Institute (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002040275	A1	20020404
APPLICATION INFO.:	US 2001-836148	A1	20010416 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2000-738954, filed on 15 Dec 2000, PENDING

	NUMBER	DATE

Searcher : Shears 308-4994

PRIORITY INFORMATION:	US 2000-195954P	20000410 (60)
	US 2000-212891P	20000620 (60)
	US 2000-222532P	20000802 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Lisa A. Haile, Ph.D., Gray Cary Ware & Freidenrich LLP, Suite 1600, 4365 Executive Drive, San Diego, CA, 92121-2189	
NUMBER OF CLAIMS:	15	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	24 Drawing Page(s)	
LINE COUNT:	3667	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides methods for analyzing **proteomes**, as cells or lysates. The analysis is based on the use of probes that have specificity to the active form of proteins, particularly enzymes and receptors. The probes can be identified in different ways. In accordance with the present invention, a method is provided for generating and screening compound libraries that are used for the identification of lead molecules, and for the parallel identification of their biological targets. By appending specific functionalities and/or groups to one or more binding moieties, the reactive functionalities gain binding affinity and specificity for particular proteins and classes of proteins. Such libraries of candidate compounds, referred to herein as activity-based probes, or ABPs, are used to screen for one or more desired biological activities or target proteins.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 3 OF 4 USPATFULL

ACCESSION NUMBER:	2002:60923 USPATFULL
TITLE:	Single-molecule selection methods and compositions therefrom
INVENTOR(S):	Cubicciotti, Roger S., Montclair, NJ, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002034757	A1	20020321
APPLICATION INFO.:	US 2001-907385	A1	20010717 (9)

RELATED APPLN. INFO.:	Continuation of Ser. No. US 1998-81930, filed on 20 May 1998, GRANTED, Pat. No. US 6287765
DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	LICATA & TYRRELL P.C., 66 E. MAIN STREET, MARLTON, NJ, 08053
NUMBER OF CLAIMS:	129
EXEMPLARY CLAIM:	1
LINE COUNT:	15716

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Single-molecule selection methods are provided for identifying target-binding molecules from diverse sequence and shape libraries. Complexes and imprints of selected target-binding molecules are also provided. The subject selection methods are used to identify oligonucleotide and nonnucleotide molecules with

desirable properties for use in pharmaceuticals, drug discovery, drug delivery, diagnostics, medical devices, cosmetics, agriculture, environmental remediation, smart materials, packaging, microelectronics and nanofabrication. Single oligonucleotide molecules with desirable binding properties are selected from diverse sequence libraries and identified by amplification and sequencing. Alternatively, selected oligonucleotide molecules are identified by sequencing without amplification. Nonnucleotide molecules with desirable properties are identified by single-molecule selection from libraries of conjugated molecules or nucleotide-encoded nonnucleotide molecules. Alternatively, target-specific nonnucleotide molecules are prepared by imprinting selected oligonucleotide molecules into nonnucleotide molecular media. Complexes and imprints of molecules identified by single-molecule selection are shown to have broad utility as drugs, prodrugs, drug delivery systems, willfully reversible cosmetics, diagnostic reagents, sensors, transducers, actuators, adhesives, adherents and novel multimolecular devices.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 4 OF 4 USPATFULL

ACCESSION NUMBER:	2001:152673 USPATFULL
TITLE:	Methods for detecting and identifying single molecules
INVENTOR(S):	Cubicciotti, Roger S., Montclair, NJ, United States
PATENT ASSIGNEE(S):	Molecular Machines, Inc., Montclair, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6287765	B1	20010911	
APPLICATION INFO.:	US 1998-81930		19980520	(9)
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	GRANTED			
PRIMARY EXAMINER:	Fredman, Jeffrey			
LEGAL REPRESENTATIVE:	Licata & Tyrrell P.C.			
NUMBER OF CLAIMS:	27			
EXEMPLARY CLAIM:	1			
LINE COUNT:	15456			

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Multimolecular devices and drug delivery systems prepared from synthetic heteropolymers, heteropolymeric discrete structures, multivalent heteropolymeric hybrid structures, aptameric multimolecular devices, multivalent imprints, tethered specific recognition devices, paired specific recognition devices, nonaptameric multimolecular devices and immobilized multimolecular structures are provided, including molecular adsorbents and multimolecular adherents, adhesives, transducers, switches, sensors and delivery systems. Methods for selecting single synthetic nucleotides, shape-specific probes and specifically attractive surfaces for use in these multimolecular devices are also provided. In addition, paired nucleotide-nonnucleotide mapping libraries for transposition of selected populations of selected nonoligonucleotide molecules into selected populations of replicatable nucleotide sequences are described.

Considered 8/27/02 WCG

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

FILE 'REGISTRY' ENTERED AT 11:38:31 ON 22 MAY 2002 - key terms
L12 [redacted] (AMINOTHIOL OR AMINOSILANE)/CN
L13 1 S ALUMINUM/CN

FILE 'CAPLUS' ENTERED AT 11:39:05 ON 22 MAY 2002
L14 21 S ?ARRAY? AND (L12 OR AMINOTHIOL OR AMINOSILANE OR AMINO(W)(THIOL OR SILANE))
L15 1 S L14 AND (L13 AND ALUMIN? OR AL)
L16 6 S L14 AND SUPPORT
L17 5 S (L15 OR L16) NOT L6

L17 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:816969 CAPLUS
DOCUMENT NUMBER: 135:353723
TITLE: Identification of microsatellite marker or single nucleotide polymorphism by DNA **array**
INVENTOR(S): Hager, Joerg; Gut, Ivo Glynne
PATENT ASSIGNEE(S): Centre National De La Recherche Scientifique, Fr.; Institut National De La Sante Et De La Recherche Medicale
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001083813	A1	20011108	WO 2001-EP4871	20010430

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: EP 2000-401202 A 20000502
AB The present invention relates to a method for the identification of the presence of a genetic marker in a DNA sample, in particular by using an oligonucleotide **array**. In particular, the method according to the invention allows for the identification and/or localization of gene(s) assocd. with a distinguishable phenotype. The complexity of the sample can be reduced e.g. by the method of genome mismatch scanning.
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:435297 CAPLUS

DOCUMENT NUMBER: 135:41767
TITLE: Immobilization of oligonucleotides onto solid **support** for the production of DNA chips
INVENTOR(S): Melnyk, Oleg; Olivier, Christophe; Ollivier, Nathalie; Hot, David; Huot, Ludovic; Lemoine, Yves; Wolowczuk, Isabelle; Huynh-dinh, Tam; Gouyette, Catherine; Gras-masse, Helene
PATENT ASSIGNEE(S): Institut Pasteur De Lille, Fr.; Centre National De La Recherche Scientifique; Institut Pasteur; et al.
SOURCE: PCT Int. Appl., 58 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001042495	A2	20010614	WO 2000-FR3427	20001207
WO 2001042495	A3	20011213		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

FR 2801904	A1	20010608	FR 1999-15392	19991207
FR 2801904	B1	20020208		

PRIORITY APPLN. INFO.: FR 1999-15392 A 19991207

AB The invention concerns products comprising a **support** whereon are fixed nucleic acids and their prepn. method and use as DNA **support**. The invention also concerns functionalized **supports**, oligonucleotides and DNA's modified in position 5' by a group selected in the group consisting of tartaric acid, serine, threonine, their derivs. and the .alpha.-oxoaldehyde group, and the methods for prepg. them. The invention further concerns a method for fixing a nucleic acid on a **support**.

IT **14097-00-8, Aminothiol**
RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(immobilization of oligonucleotides onto solid **support** for prodn. of DNA chips)

L17 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:295112 CAPLUS
DOCUMENT NUMBER: 135:367371
TITLE: Manufacturing DNA **microarrays** of high spot homogeneity and reduced background signal
AUTHOR(S): Diehl, Frank; Grahlmann, Susanne; Beier, Markus; Hoheisel, Jorg D.
CORPORATE SOURCE: Functional Genome Analysis, Deutsches Krebsforschungszentrum, Heidelberg, D-69120,

Germany
SOURCE: Nucleic Acids Research (2001), 29(7), e38/1-e38/5
CODEN: NARHAD; ISSN: 0305-1048
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Analyses on DNA **microarrays** depend considerably on spot quality and a low background signal of the glass **support**. By using betaine as an additive to a spotting soln. made of saline sodium citrate, both the binding efficiency of spotted PCR products and the homogeneity of the DNA spots is improved significantly on aminated surfaces such as glass slides coated with the widely used poly-L-lysine or **aminosilane**. In addn., non-specific background signal is markedly diminished. Concomitantly, during the **arraying** procedure, the betaine reduces evapn. from the microtiter dish wells, which hold the PCR products. Subsequent blocking of the chip surface with succinic anhydride was improved considerably in the presence of the non-polar, non-aq. solvent 1,2-dichloroethane and the acylating catalyst N-methylimidazole. This procedure prevents the overall background signal that occurs with the frequently applied aq. solvent 1-methyl-2-pyrrolidone in borate buffer because of DNA that re-dissolves from spots during the blocking process, only to bind again across the entire glass surface.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:64192 CAPLUS
DOCUMENT NUMBER: 134:126763
TITLE: **Arrays** comprising non-covalently associated nucleic acid probes and methods for making and using them
INVENTOR(S): Belosludtsev, Yuri
PATENT ASSIGNEE(S): Genometrix Genomics, Inc., USA
SOURCE: PCT Int. Appl., 46 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001006011	A2	20010125	WO 2000-US19045	20000712

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-143926P P 19990714

AB The invention provides novel methods for making and using

array-based nucleic acid hybridization substrates. The method of producing **arrays** consists of placing a soln. of nucleic acid with net neg. charge onto a discrete solid surface with net pos. charge, allowing the nucleic acid to attach non-covalently by electrostatic attraction, and finally neutralizing the pos. charges on the solid **support** which are not non-covalently attached to nucleic acid. The solid surface can be glass, porous glass, glass beads, glass fibers, a nitrocellulose membrane, or a nylon membrane. A net pos. charge on the solid surface is due to derivatization with **aminosilanes**, cationic polyacrylamides, cationic hydrogels, a diaminocyclohexane plasma polymer, polystyrene treated by oxidative amination, pos.-charged protein, cationic lipid, or cationic detergent. After electrostatic assocn., charge neutralization is achieved by chem. reaction with acylating reagents (e.g., butyric anhydride) or by neutralization with polysaccharides, polysulfate, casein, or polymers such as polyvinylpyrrolidone. The invention also provides a method for detg. if a nucleic acid in a test sample can hybridize to a nucleic acid immobilized in an **array** on a solid surface.

L17 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:761407 CAPLUS
DOCUMENT NUMBER: 132:10471
TITLE: Apparatus and method for measuring intermolecular interactions by atomic force microscopy
INVENTOR(S): Green, John-Bruce Devault; Lee, Gil U.
PATENT ASSIGNEE(S): United States Dept. of the Navy, USA
SOURCE: U.S., 16 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5992226	A	19991130	US 1998-74541	19980508
AU 9939701	A1	19991129	AU 1999-39701	19990505
PRIORITY APPLN. INFO.:			US 1998-74541	19980508
			WO 1999-US9696	19990505

AB A sample **support** member for at. force microscopy of intermol. interactions includes a sample **support** base having a plurality of protrusions, each protrusion having an apical substrate region or tip that has been chem. modified by the immobilization thereon of a sample compd. or of a linking compd. that is capable of binding a sample compd. A ref. compd. **support** member has a surface region having at least one ref. compd. immobilized thereon. The relative position and orientation of the ref. compd. **support** member and the substrate **support** member are controlled to select a particular protrusion and to cause an interaction between a ref. compd. immobilized on the surface region of the free end of the cantilever and the sample compd. immobilized on the apical substrate area of the selected protrusion. A phys. parameter assocd. with the interaction between the ref. compd. and the sample compd. can be measured. A sample **support** member having a microfabricated **array** of tapered protrusions was created

on a silicon wafer. Streptavidin was immobilized on the apices of the protrusions. Biotinylated PEG and **amino silane** were immobilized on a Digital Instruments NanoProbe silicon cantilever. The sample **support** member and the cantilever were fitted into a modified com. optical beam deflection-based at. force microscope. Adhesion measurements were taken and force curves were recorded.

IT **13598-78-2D, Amino silane,** immobilized on cantilever also contg. biotinylated PEG
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(adhesive force of, with **support** immobilized streptavidin; app. and method for measuring intermol. interactions by at. force microscopy)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

[redacted]INE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, J[redacted]S, JAPIO' ENTERED AT 11:42:39 ON 22 MAY 2002)

L18 0 S L15
L[redacted] 12 S L16
[redacted]PLICATE REMOVED)

L20 ANSWER 1 OF 11 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-205830 [26] WPIDS
DOC. NO. NON-CPI: N2002-156780
DOC. NO. CPI: C2002-063025
TITLE: **Array** of protein-binding agents useful for differential binding assay comprises a number of protein-binding agents attached to a solid **support**.
DERWENT CLASS: A96 B04 D16 S03
INVENTOR(S): BEAUSOLEIL, E; CHARYCH, D; ZUCKERMANN, R N
PATENT ASSIGNEE(S): (CHIR) CHIRON CORP
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001094946	A2	20011213	(200226)*	EN	60

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001068173 A 20011217 (200226)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001094946	A2	WO 2001-US18066	20010604
AU 2001068173	A	AU 2001-68173	20010604

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001068173 A	Based on		WO 200194946

PRIORITY APPLN. INFO: US 2000-209711P 20000605
AN 2002-205830 [26] WPIDS
AB WO 200194946 A UPAB: 20020424
NOVELTY - An **array** of protein-binding agents stably attached to a solid **support** (108) surface, comprising a solid substrate having planar surface and different protein-binding agents (I) bound it, is new. (I) comprises an anchoring segment (104) stably bound to the surface, a peptidomimetic protein-binding segment (102) and a linker segment (106) connecting and separating the other segments.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) preparing the **array**, comprising:

(a) preparing the solid substrate for bonding; and

(b) contacting (I) with the substrate; and

(2) a differential binding assay, comprising:

(a) labeling proteins in a protein-containing biological sample solution, contacting an aliquot of the sample solution with the **array**, and

(b) analyzing the **array** to determine differential binding of protein in the sample to protein-binding agent of the **array**;

(3) a kit for performing the differential assay of (2) comprising the novel **array**; and

(4) a mixed **array** of protein-binding agents stably attached to the surface of the solid **support** comprising the **array** which in addition comprises a number of different antibodies bound to the substrate.

USE - For differential binding assay (claimed).

ADVANTAGE - The **array** is stable and shows long shelf life.

DESCRIPTION OF DRAWING(S) - The drawing indicates a schematic diagram of the structure of a protein-binding agent **array** element.

Peptidomimetic segment 102
Anchor segment 104
Linker segment 106
Solid **support**. 108.

Dwg.1/11

L20 ANSWER 2 OF 11 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER:	2001-611462 [70] WPIDS
DOC. NO. NON-CPI:	N2001-456438
DOC. NO. CPI:	C2001-182698
TITLE:	Attaching target molecules to a **support**, useful for making **microarrays** of e.g. polynucleotides for gene expression analysis, by bonding to amino-containing polymer.
DERWENT CLASS:	A89 B04 D16 E11 L01 P34
INVENTOR(S):	ARNOLD, L J; LEE, P H; SAWAN, S P
PATENT ASSIGNEE(S):	(INCY-N) INCYTE GENOMICS INC; (ARNO-I) ARNOLD L J; (LEEP-I) LEE P H; (SAWA-I) SAWAN S P; (INCY-N) INCYTE PHARM INC
COUNTRY COUNT:	95

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001070641	A1	20010927	(200170)*	EN	28

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

AU 2001047632 A 20011003 (200210)

US 2002037509 A1 20020328 (200225)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001070641	A1	WO 2001-US8993	20010321
AU 2001047632	A	AU 2001-47632	20010321
US 2002037509	A1 Cont of	US 2000-532419	20000322
		US 2001-775319	20010201

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001047632	A Based on	WO 200170641

PRIORITY APPLN. INFO: US 2000-532419 20000322; US 2001-775319 20010201

AN 2001-611462 [70] WPIDS

AB WO 200170641 A UPAB: 20011129

NOVELTY - Method for attaching target molecules (A) to a solid **support** by:

(i) silylating the **support** with an **aminosilane** (II);

(ii) activating with a first crosslinking agent (III);

(iii) reacting with amino-containing polymer (IV); and

(iv) attaching (A), arranged in a defined manner, to the modified **support**.

DETAILED DESCRIPTION - (II) have formula NH2-(CH2)n-SiX3 . n = 1-10; and

X = methoxy, ethoxy, chloro, bromo or iodo.

An INDEPENDENT CLAIM is also included for an **array** of (A) produced this way.

USE - The method is used to make (micro)**arrays** of (A), especially polynucleotides, polypeptides or polysaccharides, for use in e.g. gene sequencing, analysis/monitoring of gene expression, gene mapping, identification of bacteria, drug discovery and combinatorial chemistry.

ADVANTAGE - The method provides high coupling yields.

Dwg.0/3

L20 ANSWER 3 OF 11 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 2001-147356 [15] WPIDS

DOC. NO. CPI: C2001-043662

TITLE: Producing nucleic acid **array** for use in hybridization reactions, by employing adsorptive, non-covalent attachment of nucleic acids and oligonucleotide probes to positively charged solid surfaces.
DERWENT CLASS: A89 B04 D16
INVENTOR(S): BELOSLUDTSEV, Y
PATENT ASSIGNEE(S): (GENO-N) GENOMETRIX GENOMICS INC
COUNTRY COUNT: 91
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001006011	A2	20010125	(200115)*	EN	46

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000060933 A 20010205 (200128)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001006011	A2	WO 2000-US19045	20000712
AU 2000060933	A	AU 2000-60933	20000712

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000060933	A	Based on	WO 200106011

PRIORITY APPLN. INFO: US 1999-143926P 19990714
AN 2001-147356 [15] WPIDS
AB WO 200106011 A UPAB: 20011129
NOVELTY - Producing an **array** of discrete biosites comprising non-covalently attached nucleic acids is new.

DETAILED DESCRIPTION - A method of producing an **array** of discrete biosites comprising non-covalently attached nucleic acids (NA) comprises:

(a) providing a solid surface (SS) with a positive charge or coated with a composition with a positive charge;

(b) providing at least one solution comprising a negatively charged nucleic acid;

(c) depositing a solution of (b) onto a discrete biosite on the solid **support** of (a) where NA are non-covalently attached to SS by electrostatic attraction between the opposite charges; and

(d) SS is then contacted with a composition (C) that neutralizes most of the positive charge on SS not associated with the non-covalently attached NA.

INDEPENDENT CLAIMS are also included for the following:

(1) a NA **array** (I) comprising a solid surface comprising several discrete biosites comprising a non-covalently associated NA produced by the above method; and

(2) a method for determining if NA in a test sample can

hybridize to NA immobilized onto an **array**, by contacting the test sample comprising NA with (I) and determining if a NA in the test sample hybridizes to a NA immobilized onto an **array**

USE - The method is useful for producing an **array** comprising non-covalently attached nucleic acid probes, for use in hybridization reactions.

ADVANTAGE - The affinity and selectivity of the non-covalently immobilized probe to sample target duplex formation is excellent and compact to conventional methods and unlabeled probes are applied at the concentration which is at least five times lower than required for conventional methods.

Dwg.0/2

L20 ANSWER 4 OF 11 MEDLINE
ACCESSION NUMBER: 2002071295 MEDLINE
DOCUMENT NUMBER: 21656435 PubMed ID: 11797208
TITLE: Preparation optimization and properties of the aldehyde microscopic slides for oligonucleotide **microarray** fabrication.
AUTHOR: Zou Z L; Wang S Q; Wang Z Q
CORPORATE SOURCE: Beijing Institute of Radiation Medicine, Beijing 100850, China.
SOURCE: SHENG WU KUNG CH ENG HSUEH PAO, (2001 Sep) 17 (5) 498-502.
Journal code: 9426463. ISSN: 1000-3061.
PUB. COUNTRY: China
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: Chinese
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200202
ENTRY DATE: Entered STN: 20020125
Last Updated on STN: 20020227
Entered Medline: 20020226

AB The process for preparing the aldehyde slides was optimized and the properties of the aldehyde microscopic slides for immobilizing oligonucleotide were explored. The result shows that the concentration of aminosliane reagent plays an important role in the fluorescent background. Aldehyde slides with 2% **aminosilane** and 5% aldehyde treatment for 16 min and 30 min respectively immobilize oligonucleotide efficiently and have low fluorescence background. During oligonucleotide immobilization, terminal amino modification has no obvious specificity, but it can enhance the hybridization capacity of immobilized oligonucleotides. At low concentration (less than 10 mumol/L), hybridization signal has linear relationship with probe concentration, the hybridization signal reaches saturation when probe concentration is more than 20 mumol/L.

L20 ANSWER 5 OF 11 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2002010551 MEDLINE
DOCUMENT NUMBER: 21252949 PubMed ID: 11353531
TITLE: Peptide and small molecule **microarray** for high throughput cell adhesion and functional assays.
AUTHOR: Falsey J R; Renil M; Park S; Li S; Lam K S
CORPORATE SOURCE: UC Davis Cancer Center, Division of Hematology/Oncology, and Department of Internal Medicine, University of California Davis, 4501 X

Street, Sacramento, California 95817, USA.
CONTRACT NUMBER: CA78868 (NCI)
CA78909 (NCI)
CA86364 (NCI)
SOURCE: BIOCONJUGATE CHEMISTRY, (2001 May-Jun) 12 (3) 346-53.
Journal code: 9010319. ISSN: 1043-1802.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 20020121
Last Updated on STN: 20020121
Entered Medline: 20011204

AB A novel class of chemical microchips consisting of glass microscope slides was prepared for the covalent attachment of small molecule ligands and peptides through site-specific oxime bond or thiazolidine ring ligation reaction. Commercially available microscope slides were thoroughly cleaned and derivatized with (3-aminopropyl)triethoxysilane (APTES). The amino slides were then converted to glyoxylyl derivatives via two different routes: (1) coupling of Fmoc-Ser followed by deprotection and oxidation, or (2) coupling with protected glyoxylic acid and final deprotection with HCl. Biotin or peptide ligands derivatized at the carboxyl terminus with a 4,7,10-trioxa-1,13-tridecanediamine succinimic acid linker and an amino-oxy group or a 1,2-**amino-thiol** group (e.g., cysteine with a free N(alpha)-amino group) were printed onto these slides using a DNA **microarray** spotter. After chemical ligation, the **microarray** of immobilized ligands was analyzed with three different biological assays: (1) protein-binding assay with fluorescence detection, (2) functional phosphorylation assay using [gamma(33)P]-ATP and specific protein kinase to label peptide substrate spots, and (3) adhesion assay with intact cells. In the cell adhesion assay, not only can we determine the binding specificity of the peptide against different cell lines, we can also determine functional cell signaling of attached cells using immunofluorescence techniques in situ on the microchip. This chemical microchip system enables us to rapidly analyze the functional properties of numerous ligands that we have identified from the "one-bead one-compound" combinatorial library method.

L20 ANSWER 6 OF 11 MEDLINE
ACCESSION NUMBER: 2001170259 MEDLINE
DOCUMENT NUMBER: 21169374 PubMed ID: 11266573
TITLE: Manufacturing DNA **microarrays** of high spot homogeneity and reduced background signal.
AUTHOR: Diehl F; Grahlmann S; Beier M; Hoheisel J D
CORPORATE SOURCE: Functional Genome Analysis, Deutsches Krebsforschungszentrum, Im Neuenheimer Feld 506, D-69120 Heidelberg, Germany.. f.diehl@dkfz.de
SOURCE: NUCLEIC ACIDS RESEARCH, (2001 Apr 1) 29 (7) E38.
Journal code: O8L; 0411011. ISSN: 1362-4962.
PUB. COUNTRY: England: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200105
ENTRY DATE: Entered STN: 20010517

Last Updated on STN: 20010521
Entered Medline: 20010503

AB Analyses on DNA **microarrays** depend considerably on spot quality and a low background signal of the glass **support**. By using betaine as an additive to a spotting solution made of saline sodium citrate, both the binding efficiency of spotted PCR products and the homogeneity of the DNA spots is improved significantly on aminated surfaces such as glass slides coated with the widely used poly-L-lysine or **aminosilane**. In addition, non-specific background signal is markedly diminished. Concomitantly, during the **arraying** procedure, the betaine reduces evaporation from the microtitre dish wells, which hold the PCR products. Subsequent blocking of the chip surface with succinic anhydride was improved considerably in the presence of the non-polar, non-aqueous solvent 1,2-dichloroethane and the acylating catalyst N:-methylimidazole. This procedure prevents the overall background signal that occurs with the frequently applied aqueous solvent 1-methyl-2-pyrrolidone in borate buffer because of DNA that re-dissolves from spots during the blocking process, only to bind again across the entire glass surface.

L20 ANSWER 7 OF 11 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2001-061444 [07] WPIDS
DOC. NO. CPI: C2001-017014
TITLE: Generating 5'-nucleic acid-protein conjugate useful for selecting desired nucleic acid or protein comprises contacting nucleic acid which carries reactive group at its 5' end and a non-derivatized protein.
DERWENT CLASS: B04 D16
INVENTOR(S): LOHSE, P; MCPHERSON, M; WRIGHT, M C
PATENT ASSIGNEE(S): (PHYL-N) PHYLOS INC
COUNTRY COUNT: 93
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000072869	A1	20001207	(200107)*	EN	32
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
AU 2000054555	A	20001218	(200118)		
NO 2001005828	A	20011129	(200224)		
EP 1187626	A1	20020320	(200227)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000072869	A1	WO 2000-US15077	20000601
AU 2000054555	A	AU 2000-54555	20000601
NO 2001005828	A	WO 2000-US15077	20000601
		NO 2001-5828	20011129

EP 1187626 A1 EP 2000-939474 20000601
WO 2000-US15077 20000601

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000054555	A	Based on	WO 200072869
EP 1187626	A1	Based on	WO 200072869

PRIORITY APPLN. INFO: US 1999-137032P 19990601
AN 2001-061444 [07] WPIDS
AB WO 200072869 A UPAB: 20011129
NOVELTY - Generating (M1) a 5'-nucleic acid-protein conjugate (I) comprises contacting a nucleic acid (Ia) which carries a reactive group at its 5' end and a non-derivatized protein (Ib) under conditions which allow the reactive group to react with the N-terminus of the protein, thus forming 5'-nucleic acid-protein conjugate.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for (I) which comprises (Ia) bound through its 5' terminus or a 5' terminal reactive group to the N-terminus of a (Ib).

USE - (I) is useful for the selection of a desired nucleic acid or a desired protein. (I) is also useful for detecting the interaction between a protein and a compound (a protein or therapeutic) (all claimed). The fusions may be used for the improvement of existing proteins or the evolution of proteins with novel structures or functions, particularly in the areas of therapeutic, diagnostic, and research products. Also 5'-RNA-protein fusions are used functional genomics field and to detect protein-protein interactions in a variety of formats.

ADVANTAGE - Nucleic acid-protein conjugates of any desired molecular weight may be generated using the above described methods because the nucleic acid as well as the protein may be produced independently using well-known synthetic and biological methods. These post-synthetic ligation methods are therefore advantageous over fully synthetic techniques where stepwise buildup of nucleic acid-peptide conjugates generally allows preparation of only limited size conjugates. In addition, the reactions between the N-terminus cysteine and the 1,2-**aminothiol** reactive group on the nucleic acid are, chemoselective over other nucleophilic groups on the protein, thus leading to regiospecific links between proteins and nucleic acids. Also the ligation reaction work efficiently under mild conditions in physiological buffers. Consequently, protein structure is not disrupted under the ligation conditions used, and conjugates carrying functional proteins can be formed. In addition, the present ligation reaction work efficiently with reactant concentration in the micro m range. Consequently, dilute preparations of protein and nucleic acid can be used for conjugate preparation.
Dwg.0/8

L20 ANSWER 8 OF 11 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-147218 [13] WPIDS
CROSS REFERENCE: 1996-393530 [39]; 1997-393702 [36]; 1998-457256 [39]; 1998-495982 [42]; 1999-204741 [17]; 2000-071650 [06]; 2001-225814 [14]; 2002-089133 [70]; 2002-105080 [71]

DOC. NO. NON-CPI: N2000-417837
DOC. NO. CPI: C2000-168574
TITLE: Biopolymeric composition for detecting analytes e.g. pathogens, proteins or enzymes, comprises biopolymeric material that changes color in presence of analyte.
DERWENT CLASS: A96 B04 D16 S03
INVENTOR(S): CHARYCH, D H; JONAS, U
PATENT ASSIGNEE(S): (REGC) UNIV CALIFORNIA
COUNTRY COUNT: 22
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9967423	A1	19991229	(200013)*	EN	175
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP					
AU 9947047	A	20000110	(200025)		
EP 1112377	A1	20010704	(200138)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9967423	A1	WO 1999-US14029	19990622
AU 9947047	A	AU 1999-47047	19990622
EP 1112377	A1	EP 1999-930522	19990622
		WO 1999-US14029	19990622

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9947047	A	Based on	WO 9967423
EP 1112377	A1	Based on	WO 9967423

PRIORITY APPLN. INFO: US 1999-90266 19990621; US 1998-90266P 19980622
AN 2000-147218 [13] WPIDS
CR 1996-393530 [39]; 1997-393702 [36]; 1998-457256 [39]; 1998-495982 [42]; 1999-204741 [17]; 2000-071650 [06]; 2001-225814 [14]; 2002-089133 [70]; 2002-105080 [71]
AB WO 9967423 A UPAB: 20020301
NOVELTY - Composition (A) comprising biopolymeric material (I) that changes color in presence of an analyte (II). (I) consists of many polymerized self-assembling monomers (III) and at least one nucleic acid ligand (IV).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a device containing at least one immobilized (I), and

(2) method for detecting (II) from its ability to cause a color change in (I).

USE - The method is used to detect nucleic acids, enzymes, pathogens (especially viruses, bacteria, parasites or fungi), drugs, receptor ligands, antigens, ions, proteins, hormones, blood components, antibodies or lectins, e.g. for diagnosis of pathogens or genetic diseases, but also more generally organic solvents (e.g.

in pharmaceutical products, air or water samples) or other small organic molecules. It can also be used to identify enzyme inhibitors; to screen enzymes or other catalytic molecules for activity and in drug development (by detecting competitive inhibition of a natural binding event).

ADVANTAGE - (II) can be detected directly and rapidly, either with the naked eye (e.g. for home use) or instrumentally. The method can be made quantitative; is easily adapted to high throughput screening and vesicles based on (I) have excellent storage stability.

Dwg.0/50

L20 ANSWER 9 OF 11 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 1999-430042 [36] WPIDS
DOC. NO. CPI: C1999-126684
TITLE: Determining sequence of a nucleic acid by mass spectrometry.
DERWENT CLASS: B04 C06 D16 J04
INVENTOR(S): CANTOR, C; KANG, C; KIM, Y T; KOESTER, H; KWON, Y; LITTLE, D P; LOUGH, D M; O'DONNELL, M J; XIANG, G; CANTOR, C R; KIM, Y; ODONNELL, M J; LITTLE, M J
PATENT ASSIGNEE(S): (KOAD) KOREA ADV INST SCI & TECHNOLOGY; (ODON-I) O'DONNELL M J; (SEQU-N) SEQUENOM INC
COUNTRY COUNT: 85
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9931278	A1	19990624	(199936)*	EN	116
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW					
AU 9919187	A	19990705	(199948)		
EP 1038031	A1	20000927	(200048)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
NO 2000003058	A	20000815	(200052)		
US 6268131	B1	20010731	(200146)		
KR 2001033130	A	20010425	(200164)		
JP 2002508192	W	20020319	(200222)		159
AU 745149	B	20020314	(200231)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9931278	A1	WO 1998-US26718	19981215
AU 9919187	A	AU 1999-19187	19981215
EP 1038031	A1	EP 1998-963969	19981215
		WO 1998-US26718	19981215
NO 2000003058	A	WO 1998-US26718	19981215
		NO 2000-3058	20000614
US 6268131	B1	US 1997-990851	19971215
KR 2001033130	A	KR 2000-706503	20000614
JP 2002508192	W	WO 1998-US26718	19981215

		JP 2000-539175	19981215
AU 745149	B	AU 1999-19187	19981215

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9919187	A	Based on	WO 9931278
EP 1038031	A1	Based on	WO 9931278
JP 2002508192	W	Based on	WO 9931278
AU 745149	B	Previous Publ.	AU 9919187
		Based on	WO 9931278

PRIORITY APPLN. INFO: US 1997-990851 19971215
AN 1999-430042 [36] WPIDS
AB WO 9931278 A UPAB: 19990908
NOVELTY - A new method for determining the sequence of a target nucleic acid molecule comprises transcribing the nucleic acid molecule which has a promoter, followed by determining the molecular weight of the transcripts by mass spectrometry.

DETAILED DESCRIPTION - A new method for determining the sequence of a target nucleic acid molecule comprises:

(a) providing a nucleic acid molecule comprising a promoter and target nucleic acid sequence operatively linked to the promoter, where the nucleic acid molecule is immobilized on a solid **support**;

(b) transcribing the promoter-containing nucleic acid molecule with an RNA polymerase that recognizes the promoter under conditions where a nested set of RNA transcripts from the target is produced; and

(c) determining the molecular weight of the transcripts by mass spectrometry and therefore determining the nucleic acid sequence of the target molecule.

An INDEPENDENT CLAIM is also included for a method of identifying transcriptional terminator or attenuator sequences comprising:

(a) immobilizing a nucleic acid promoter containing probe on a solid **support**, where the nucleic acid promoter containing probe comprises at least 5 nucleotides at the X-end of the coding strand that is complementary to a single stranded region at the X-end of the target nucleic acid;

(b) hybridizing the nucleic acid to be sequenced to the immobilized nucleic acid probe;

(c) transcribing the target nucleic acid with an RNA polymerase to produce a sequence-terminated RNA transcript, where the RNA polymerase recognizes the promoter; and

(d) determining the molecular weight value of the RNA transcript by mass spectrometry, where the terminator sequence or attenuator is identified.

USE - The method is used for sequencing nucleic acids by mass spectrometry. In particular, the method can be used to identify transcriptional terminator or attenuator sequences (claimed). Rho-dependent and rho-independent terminators may be detected by the method.

ADVANTAGE - The **array** format comprising high densities of nucleic acid probes facilitates mass spectrometric detection. RNA fragments are more stable during matrix-assisted laser desorption/ionization (MALDI) mass spectrometry than DNA

fragments. This may be a result of the 2'-hydroxyl group on the sugar moiety of RNA, which helps to reduce depurination during the MALDI process. Ribonucleoside triphosphate analogues are used in the method, so that the resulting RNA transcripts have reduced secondary structure, or the fidelity of termination and turnover of the RNA polymerase enzyme is increased compared to RNA transcripts formed from ribonucleoside triphosphates.
Dwg.0/17

L20 ANSWER 10 OF 11 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1999-357855 [30] WPIDS
DOC. NO. CPI: C1999-105931
TITLE: Reagent for nucleic acid sequencing by primer extension, used to detect mutations and to diagnose infectious or genetic diseases.
DERWENT CLASS: B04 D16
INVENTOR(S): BOYCE-JACINO, M; GOELET, P; HEAD, S R; KARN, J
PATENT ASSIGNEE(S): (ORCH-N) ORCHID BIOCOMPUTER INC; (ORCH-N) ORCHID BIOSCIENCES INC
COUNTRY COUNT: 84
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9927137	A1	19990603	(199930)*	EN	47
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW					
AU 9914216	A	19990615	(199944)		
EP 1034302	A1	20000913	(200046)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
US 6322968	B1	20011127	(200175)		
JP 2001524319	W	20011204	(200203)		58
US 6337188	B1	20020108	(200211)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9927137	A1		WO 1998-US24966	19981120
AU 9914216	A		AU 1999-14216	19981120
EP 1034302	A1		EP 1998-958115	19981120
			WO 1998-US24966	19981120
US 6322968	B1		US 1997-976427	19971121
JP 2001524319	W		WO 1998-US24966	19981120
			JP 2000-522278	19981120
US 6337188	B1	Div ex	US 1997-976427	19971121
			US 2000-648312	20000825

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9914216	A	Based on	WO 9927137
EP 1034302	A1	Based on	WO 9927137

JP 2001524319 W Based on WO 9927137

PRIORITY APPLN. INFO: US 1997-976427 19971121; US 2000-648312 20000825
AN 1999-357855 [30] WPIDS
AB WO 9927137 A UPAB: 19990802
NOVELTY - Sequencing reagent (I) comprising:
(a) a capture group (CG) that can form a stable complex with a region of a template nucleic acid (II);
(b) spacer region (SR); and
(c) sequence-specific hybridization region (SSHR) of 4-8 bases able to hybridize to a complementary sequence on (II).
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) **array** comprising an orderly arrangement of many (I), immobilized on a solid **support**; and
(2) method of sequencing (II) using a combinatorial **array** of (I).
ACTIVITY - None given.
MECHANISM OF ACTION - None given.
USE - **Arrays** of (I) are used for sequencing nucleic acids by a primer extension method, e.g. to scan for mutations (particularly single-nucleotide polymorphisms) and for diagnosis of infectious and genetic diseases.
ADVANTAGE - **Arrays** of (I) allow sequencing of templates without any prior knowledge of the wild-type or expected sequence. By separating the capture and specific hybridization functions, it becomes possible to use smaller primers, simplifying **array** analysis, reducing costs and allowing thousands of hybridization reactions to be done simultaneously.
Particularly, 4 times fewer primers are required, compared with standard methods, i.e. since primer extension increases the effective length of the primer by 1 base, an **array** of n-mers will be as effective as an **array** of n+1-mers in usual methods. The method may be applied to single- or double-stranded DNA.
Dwg.0/2

L20 ANSWER 11 OF 11 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 96:606961 SCISEARCH
THE GENUINE ARTICLE: VB832
TITLE: COVALENT ATTACHMENT OF SYNTHETIC DNA TO SELF-ASSEMBLED MONOLAYER FILMS
AUTHOR: CHRISEY L A (Reprint); LEE G U; OFERRALL C E
CORPORATE SOURCE: USN, RES LAB, CODE 69001, WASHINGTON, DC, 20375 (Reprint); GEOCENTERS INC, FT WASHINGTON, MD, 20744
COUNTRY OF AUTHOR: USA
SOURCE: NUCLEIC ACIDS RESEARCH, (01 AUG 1996) Vol. 24, No. 15, pp. 3031-3039.
ISSN: 0305-1048.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 21
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The covalent attachment of thiol-modified DNA oligomers to self-assembled monolayer silane films on fused silica and oxidized silicon substrates is described. A heterobifunctional crosslinking

molecule bearing both thiol- and amino-reactive moieties was used to tether a DNA oligomer (modified at its terminus with a thiol group) to an **aminosilane** film formed on silica surfaces. A variety of **aminosilanes**, crosslinkers and treatment conditions have been tested to identify optimal conditions for DNA immobilization using this approach. The DNA films which result have been characterized using UV spectroscopy, water contact angle measurement, radiolabeling and hybridization methods.

[redacted]' ENTERED AT 11:48:01 ON 22 MAY 2002
L21 621 SEA ABB=ON PLU=ON (PEPTIDOMIM? OR PEPTID? MIM? OR PROTEOM?) AND (LINK? OR CONJUGAT?)
L22 15 SEA ABB=ON PLU=ON L21 AND ANCHOR?
L23 14 SEA ABB=ON PLU=ON L22 NOT (L6 OR L17)

L23 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:322718 CAPLUS
TITLE: Major outer membrane proteins and proteolytic processing of RgpA and Kgp of Porphyromonas gingivalis W50
AUTHOR(S): Veith, Paul D.; Talbo, Gert H.; Slakeski, Nada; Dashper, Stuart G.; Moore, Caroline; Paolini, Rita A.; Reynolds, Eric C.
CORPORATE SOURCE: School of Dental Science, The University of Melbourne, Melbourne, 3000, Australia
SOURCE: Biochemical Journal (2002), 363(1), 105-115
CODEN: BIJOAK; ISSN: 0264-6021
PUBLISHER: Portland Press Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Porphyromonas gingivalis is an anaerobic, asaccharolytic Gram-neg. rod assocd. with chronic periodontitis. We have undertaken a **proteomic** study of the outer membrane of P. gingivalis strain W50 using two-dimensional gel electrophoresis and peptide mass fingerprinting. Proteins were identified by ref. to the pre-release genomic sequence of P. gingivalis available from The Institute for Genomic Research. Out of 39 proteins identified, five were TonB-**linked** outer membrane receptors, ten others were putative integral outer membrane proteins and four were putative lipoproteins. Pyroglutamate was found to be the N-terminal residue of seven of the proteins, and was predicted to be the N-terminal residue of 13 addnl. proteins. The RgpA, Kgp and HagA polyproteins were identified as fully processed domains in outer membranes prepd. in the presence of proteinase inhibitors. Several domains were found to be C-terminally truncated 16-57 residues upstream from the N-terminus of the following domain, at a residue penultimate to a lysine. This pattern of C-terminal processing was not detected in a W50 strain isogenic mutant lacking the lysine-specific proteinase Kgp. Construction of another W50 isogenic mutant lacking the arginine-specific proteinases indicated that RgpB and/or RgpA were also involved in domain processing. The C-terminal adhesin of RgpA, designated RgpA27, together with RgpB and two newly identified proteins designated P27 and P59 were found to migrate on two-dimensional gels as vertical streaks at a mol. mass 13-42 kDa higher than that calcd. from their gene sequences. The electrophoretic behavior of these proteins, together with their immunoreactivity with a monoclonal antibody that recognizes lipopolysaccharide, is consistent with a modification that could

anchor the proteins to the outer membrane.
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:282719 CAPLUS
TITLE: N-terminal N-Myristoylation of Proteins: Refinement of the Sequence Motif and its Taxon-specific Differences
AUTHOR(S): Maurer-Stroh, Sebastian; Eisenhaber, Birgit; Eisenhaber, Frank
CORPORATE SOURCE: Research Institute of Molecular Pathology, Vienna, A-1030, Austria
SOURCE: Journal of Molecular Biology (2002), 317(4), 523-540
CODEN: JMOBAK; ISSN: 0022-2836
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB N-terminal N-myristoylation is a lipid **anchor** modification of eukaryotic and viral proteins targeting them to membrane locations, thus changing the cellular function of modified proteins. Protein myristoylation is crit. in many pathways; e.g. in signal transduction, apoptosis, or alternative extracellular protein export. The myristoyl-CoA:protein N-myristoyltransferase (NMT) recognizes the sequence motif of appropriate substrate proteins at the N terminus and attaches the lipid moiety to the absolutely required N-terminal glycine residue. Reliable recognition of capacity for N-terminal myristoylation from the substrate protein sequence alone is desirable for **proteome**-wide function annotation projects but the existing PROSITE motif is not practical, since it produces huge nos. of false pos. and even some false neg. predictions.As a first step towards a new prediction method, it is necessary to refine the sequence motif coding for N-terminal N-myristoylation. Relying on the in-depth study of the amino acid sequence variability of substrate proteins, on binding site analyses in X-ray structures or 3D homol. models for NMTs from various taxa, and on consideration of biochem. data extd. from the scientific literature, we found indications that, at least within a complete substrate protein, the N-terminal 17 protein residues experience different types of variability restrictions. We identified three motif regions: region 1 (positions 1-6) fitting the binding pocket; region 2 (positions 7-10) interacting with the NMT's surface at the mouth of the catalytic cavity; and region 3 (positions 11-17) comprising a hydrophilic **linker**. Each region was characterized by phys. requirements to single sequence positions or groups of positions regarding vol., polarity, backbone flexibility and other typical properties of amino acids (http://mendel.imp.univie.ac.at/myristate/). These specificity differences are confined partly to taxonomic ranges and are proposed for the design of NMT inhibitors in pathogenic fungal and protozoan systems including Aspergillus fumigatus, Leishmania major, Trypanosoma cruzi, Trypanosoma brucei, Giardia intestinalis, Entamoeba histolytica, Pneumocystis carinii, Strongyloides stercoralis and Schistosoma mansoni. An exhaustive search for NMT-homologues led to the discovery of two putative entomopoxviral NMTs.

REFERENCE COUNT: 106 THERE ARE 106 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:142561 CAPLUS
DOCUMENT NUMBER: 136:205475
TITLE: Peptide and **peptide mimetic conjugates** with integrin-inhibitor properties and usage for the integration of prosthetic materials
INVENTOR(S): Meyer, Joerg; Nies, Berthold; Dard, Michel; Hoelzemann, Guenter; Kessler, Horst; Kantlehner, Martin; Hersel, Ulrich; Gibson, Christoph; Sulyok, Gabor
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002013872	A1	20020221	WO 2001-EP8932	20010802
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10040105	A1	20020228	DE 2000-10040105	20000817

PRIORITY APPLN. INFO.: DE 2000-10040105 A 20000817

AB The invention relates to compds. of formula B-Q-X1, where B is a bioactive, cell adhesive mediating mol., Q is absent or is an inorg. spacer mol. and X1 is an **anchor** mol., selected from the group Lys-(CO-CH2-(CH2)n-PO3H2)2 , -Lys-[Lys-(CO-CH2-(CH2)n-PO3H2)2]2 , or -Lys-(Lys[-Lys-(CO-CH2-(CH2)n-PO3H2)2]2)2 , and n independently represents 0, 1, 2 or 3, where a free amino group of group B is **linked** in peptide form to a free carboxyl group of the spacer mol. Q or of the **anchor** mol. X1, or a free amino group of the radical Q is **linked** in peptide form to a free carboxyl group of the radical X1. The invention also relates to the salts of the mols. The compds. can be used as integrin inhibitors for the treatment of illnesses, deficiencies, inflammations caused by implants and osteolytic illnesses such as osteoporosis, thrombosis, cardiac infarction and arteriosclerosis, in addn. to the acceleration and strengthening of the integration process of implants or the biocompatible surface in tissue.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:846032 CAPLUS
DOCUMENT NUMBER: 136:117020
TITLE: Exploiting conformationally constrained **peptidomimetics** and an efficient human-compatible delivery system in synthetic vaccine design
AUTHOR(S): Moreno, Rafael; Jiang, Luyong; Moehle, Kerstin; Zurbriggen, Rinaldo; Gluck, Reinhard; Robinson, John A.; Pluschke, Gerd
CORPORATE SOURCE: Swiss Tropical Institute, Basel, 4002, Switz.
SOURCE: ChemBioChem (2001), 2(11), 838-843
CODEN: CBCHFX; ISSN: 1439-4227
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Peptide and protein mimetics are potentially of great value in synthetic vaccine design. The mimetics should function by stimulating the immune system to produce antibodies that recognize the intact parasite. Also the mimetics should be presented to the immune system in a way that leads to efficient antibody prodn. Here the authors investigate the application of cyclic **peptidomimetics** presented on immunopotentiating reconstituted influenza virosomes (IRIVs), a form of antigen delivery that is licensed already for human clin. use, in synthetic vaccine design. The authors focus on the central (NPNA)n repeat region of the circumsporozoite (CS) protein of the malaria parasite Plasmodium falciparum as a model system. Cyclic **peptidomimetics** of the NPNA repeats were incorporated into both an IRIV and (for comparison) a multiple-antigen peptide (MAP). Both IRIV and MAP delivery forms induced mimetic-specific humoral immune responses in mice, but only with the mimetic-IRIV prepns. did a significant fraction of the elicited antibodies cross-react with sporozoites. The results demonstrate that IRIVs are a delivery system suitable for the efficient induction of antibody responses against conformational epitopes by use of cyclic template-bound **peptidomimetics**. Combined with combinatorial chem., this approach may have great potential for the rapid optimization of molecularly defined synthetic vaccine candidates against a wide variety of infectious agents.
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:678668 CAPLUS
DOCUMENT NUMBER: 135:368374
TITLE: A non-golgi .alpha.1,2-fucosyltransferase that modifies Skp1 in the cytoplasm of Dictyostelium
AUTHOR(S): Van der Wel, Hanke; Morris, Howard R.; Panico, Maria; Paxton, Thanai; North, Simon J.; Dell, Anne; Thomson, J. Michael; West, Christopher M.
CORPORATE SOURCE: Department of Anatomy and Cell Biology, University of Florida College of Medicine, Gainesville, FL, 32610-0235, USA
SOURCE: Journal of Biological Chemistry (2001), 276(36), 33952-33963

CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Skp1 is a subunit of the SCF-E3 ubiquitin ligase that targets cell cycle and other regulatory factors for degrdn. In Dictyostelium, Skp1 is modified by a pentasaccharide contg. the type 1 blood group H trisaccharide at its core. To address how the third sugar, fucose .alpha.1,2-**linked** to galactose, is attached, a **proteomics** strategy was applied to det. the primary structure of FT85, previously shown to copurify with the GDP-Fuc:Skp1 .alpha.1,2-fucosyltransferase. Tryptic-generated peptides of FT85 were sequenced de novo using Q-TOF tandem mass spectrometry. Degenerate primers were used to amplify FT85 genomic DNA, which was further extended by a novel **linker** polymerase chain reaction method to yield an intronless open reading frame of 768 amino acids. Disruption of the FT85 gene by homologous recombination resulted in viable cells, which had altered light scattering properties as revealed by flow cytometry. FT85 was necessary and sufficient for Skp1 fucosylation, based on biochem. anal. of FT85 mutant cells and Escherichia coli that express FT85 recombinantly. FT85 lacks sequence motifs that characterize all other known .alpha.1,2-fucosyltransferases and lacks the signal-**anchor** sequence that targets them to the secretory pathway. The C-terminal region of FT85 harbors motifs found in inverting Family 2 glycosyltransferase domains, and its expression in FT85 mutant cells restores fucosyltransferase activity toward a simple disaccharide substrate. Whereas most prokaryote and eukaryote Family 2 glycosyltransferases are membrane-bound and oriented toward the cytoplasm where they glycosylate lipid-**linked** or polysaccharide precursors prior to membrane translocation, the sol., eukaryotic Skp1-fucosyltransferase modifies a protein that resides in the cytoplasm and nucleus.

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:612021 CAPLUS
DOCUMENT NUMBER: 136:548

TITLE: Thrombin receptor (PAR-1) antagonists. Solid-phase synthesis of indole-based **peptide mimetics** by **anchoring** to a secondary amide

AUTHOR(S): Zhang, H.-C.; McComsey, D. F.; White, K. B.; Addo, M. F.; Andrade-Gordon, P.; Derian, C. K.; Oksenberg, D.; Maryanoff, B. E.
CORPORATE SOURCE: Drug Discovery, The R. W. Johnson Pharmaceutical Research Institute, Spring House, PA, 19477-0776, USA

SOURCE: Bioorganic & Medicinal Chemistry Letters (2001), 11(16), 2105-2109
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A novel, 10-step, solid-phase method, based on a secondary amide

linker, was developed to construct a diverse library of indole-based SFLLR **peptide mimetics** as thrombin receptor (protease-activated receptor 1, PAR-1) antagonists. The key steps include stepwise reductive alkylation, urea formation, and Mannich reaction. Screening of the library led to a quick development of the SAR and the significant improvement of PAR-1 activity.

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

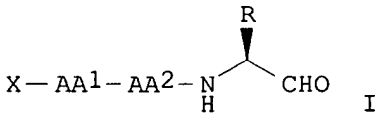
L23 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:600317 CAPLUS
DOCUMENT NUMBER: 136:263391
TITLE: Glycidic scaffolds in **peptidomimetic** synthesis
AUTHOR(S): Peri, Francesco; Cipolla, Laura; Forni, Eleonora; La Ferla, Barbara; Caneva, Enrico; Nicotra, Francesco
CORPORATE SOURCE: Dipartimento di Biotecnologie e Bioscienze, Universita degli Studi di Milano-Bicocca, Milan, I-20126, Italy
SOURCE: Seminars in Organic Synthesis, Summer School "A. Corbella", 26th, Gargnano, Italy, June 18-22, 2001 (2001), 69-92. Societa Chimica Italiana: Rome, Italy.
CODEN: 69BQQ4
DOCUMENT TYPE: Conference; General Review
LANGUAGE: English
AB A review. Hydroxyl groups of carbohydrates have been used for the covalent **anchoring** of pharmacophores and for the prepn. of **peptidomimetics** by **linking** amino acid side chains with an appropriate spatial orientation. To induce peptide secondary structures involved in pharmacol. relevant recognition, sugar amino acids (SAA) have been incorporated into cyclic peptides. Alternatively, SAA oligomers have been investigated as easily available substitutes of oligosaccharides and their folding properties have been examd.
REFERENCE COUNT: 68 THERE ARE 68 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:492942 CAPLUS
DOCUMENT NUMBER: 133:172444
TITLE: **Proteomic** analysis of NMDA receptor-adhesion protein signaling complexes
AUTHOR(S): Husi, Holger; Ward, Malcolm A.; Choudhary, Jyoti S.; Blackstock, Walter P.; Grant, Seth G. N.
CORPORATE SOURCE: Centre for Genome Research, Centre for Neuroscience, University of Edinburgh, Edinburgh, EH9 3JQ, UK
SOURCE: Nature Neuroscience (2000), 3(7), 661-669
CODEN: NANEFN; ISSN: 1097-6256
PUBLISHER: Nature America Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB N-methyl-D-aspartate receptors (NMDAR) mediate long-lasting changes

in synapse strength via downstream signaling pathways. The authors report **proteomic** characterization with mass spectrometry and immunoblotting of NMDAR multiprotein complexes (NRC) isolated from mouse brain. The NRC comprised 77 proteins organized into receptor, adaptor, signaling, cytoskeletal and novel proteins, of which 30 are implicated from binding studies and another 19 participate in NMDAR signaling. NMDAR and metabotropic glutamate receptor subtypes were **linked** to cadherins and L1 cell-adhesion mols. in complexes lacking AMPA receptors. These neurotransmitter-adhesion receptor complexes were bound to kinases, phosphatases, GTPase-activating proteins and Ras with effectors including MAPK pathway components. Several proteins were encoded by activity-dependent genes. Genetic or pharmacol. interference with 15 NRC proteins impairs learning and with 22 proteins alters synaptic plasticity in rodents. Mutations in three human genes (NF1, Rsk-2, L1) are assocd. with learning impairments, indicating the NRC also participates in human cognition.

REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:788495 CAPLUS
DOCUMENT NUMBER: 132:222836
TITLE: Novel Hydrazino-Carbonyl-Amino-Methylated polystyrene (HCAM) resin methodology for the synthesis of P1-aldehyde protease inhibitor candidates
AUTHOR(S): Siev, Daniel V.; Semple, J. Edward
CORPORATE SOURCE: Department of Medicinal Chemistry, Corvas International Inc., San Diego, CA, 92121, USA
SOURCE: Organic Letters (2000), 2(1), 19-22
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

AB A new strategy for the synthesis of peptidyl and **peptidomimetic** aldehydes I [X = Cbz, PhCH2SO2, PhCO, MeCO; AA1 = homoGlu, Asp; AA2 = Sar, Nva; AA1AA2 = 3(S)-amino-2-oxo-1-piperidinoacetyl; R = (CH2)3NHC(:NH)NH2, CH2C.tplbond.CH, CH2CH:CH2, CH2SMe] on HCAM solid support is described. The appropriate C-terminal aldehyde precursors were prepd. and **anchored** to a resin support via a semicarbazone **linkage** (HCAM resin). After synthetic elaboration, acidic hydrolysis efficiently delivered I in good overall yields and in excellent purity.

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:490992 CAPLUS
DOCUMENT NUMBER: 129:107585
TITLE: Targeting of CFTR protein is **linked** to the polarization of human pancreatic duct cells in culture
AUTHOR(S): Hollande, Etienne; Fanjul, Marjorie; Chemin-Thomas, Carine; Devaux, Christiane; Demolombe, Sophie; Van Rietschoten, Jurphas; Guy-Crotte, Odette; Figarella, Catherine
CORPORATE SOURCE: Lab. Cytophysiologie Cellules Eucaryotes, Univ. Paul Sabatier, Toulouse, F-31400, Fr.
SOURCE: European Journal of Cell Biology (1998), 76(3), 220-227
CODEN: EJCBDN; ISSN: 0171-9335
PUBLISHER: Gustav Fischer Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A relationship between targeting of the protein CFTR (cystic fibrosis transmembrane conductance regulator) and cellular polarization was obsd. in various types of epithelial cells. There are no reports on this in human exocrine pancreatic cells, which are functionally altered in patients with cystic fibrosis. The expression of CFTR and its targeting to apical plasma membranes was investigated during growth and polarization of human ductal pancreatic cancerous Capan-1 cells. Despite their neoplastic origin, the cancerous pancreatic duct cells of the Capan-1 line secrete Cl- and HCO3- ions. The authors showed by electron microscopy, impregnation of cells with tannin and freeze-fracture that these cells become polarized during growth in culture, and are joined by tight junctions. The expression of CFTR and the various stages in its **anchorage** to membranes was followed using a specific polyclonal antibody, ECL-885, directed against a synthetic **peptide mimicking** one of the extracellular loops of CFTR. Qual. and quant. confocal microscopic studies showed that the expression of CFTR was const. during growth, irresp. of cellular conformation. The no. of cells presenting CFTR **anchored** to membranes increased with time in culture. The rise in membrane-bound CFTR-immunoreactivity accompanied the polarization of the cells. CFTR **anchored** to plasma membranes was distributed regularly over the surface of non-polarized cells, but was localized only at the apical membranes of the polarized cells. Patch-clamp studies indicated the presence of few Cl- cAMP-dependent conductance CFTR channels on unpolarized cells, and a larger no. of CFTR channels on the apical plasma membranes of polarized cells. These results indicated that the **anchorage** of a functional CFTR to the plasma membrane is progressive and occurs in step with polarization of these human pancreatic duct cells in culture. The authors suggest that the targeting of CFTR to the apical membranes is directly **linked** to the process of cellular polarization.

L23 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:696874 CAPLUS
DOCUMENT NUMBER: 127:355666
TITLE: Manufacture of soluble anterior pituitary hormone receptors as cleavable fusion products

with a membrane **anchor** peptide
INVENTOR(S): Hsueh, Aaron J. W.; Kobilka, Brian K.; Kudo, Masataka
PATENT ASSIGNEE(S): Leland Stanford Junior University, USA
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9739131	A1	19971023	WO 1997-US6117	19970414
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2250975	AA	19971023	CA 1997-2250975	19970414
AU 9727282	A1	19971107	AU 1997-27282	19970414
EP 910648	A1	19990428	EP 1997-921166	19970414
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 5925549	A	19990720	US 1997-837151	19970414
JP 2001519650	T2	20011023	JP 1997-537262	19970414

PRIORITY APPLN. INFO.: US 1996-15450P P 19960415
WO 1997-US6117 W 19970414

AB A method of manufg. the extracellular domain of 7-transmembrane domain G-protein coupled receptor, specifically a glycoprotein hormone receptor, in a form that can be easily solubilized is described. The solubilized ligand binding domains have a no. of therapeutic uses. The domain is manufd. as a fusion protein with a membrane **anchor** domain appropriate for the expression host with a cleavable peptide **linker**. The domain can then be released by treatment with a cleavage reagent, specifically a proteinase. Manuf. of LH, FSH, and TSH as fusion products with CD8 antigen using 293 cells as expression hosts for pCDNA-derived expression constructs is described. The FSH receptor fusion protein retained a high affinity for FSH and the sol. extracellular domain inhibited FSH action in vitro. The protein was also able to induce apoptosis in rat testis cells upon injection.

L23 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:415360 CAPLUS
DOCUMENT NUMBER: 127:105073
TITLE: Toward a functional analysis of the yeast genome through exhaustive two-hybrid screens
AUTHOR(S): Fromont-Racine, Micheline; Rain, Jean-Christophe; Legrain, Pierre
CORPORATE SOURCE: Lab. Metabolisme des ARN, CNRS (URA 1300), Inst. Pasteur, Paris, 75724, Fr.
SOURCE: Nat. Genet. (1997), 16(3), 277-282
CODEN: NGENEC; ISSN: 1061-4036
PUBLISHER: Nature America
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The genome of the yeast Saccharomyces cerevisiae is now completely sequenced. Despite successful genetic work in recent years, 60% of yeast genes have no assigned function and half of those encode

putative proteins without an homol. with known proteins. Genetic analyses, such as suppressor or synthetic lethal screens, have suggested many functional **links** between gene products, some of which have been confirmed by biochem. means. Altogether, these approaches have led to a fairly extensive knowledge of defined biochem. pathways. However, the integration of these pathways against the background of complexity in a living cell remains to be accomplished. The two-hybrid method applied to the yeast genome might allow the characterization of the network of interactions between yeast proteins, leading to a better understanding of cellular functions. Such an anal. has been performed for the bacteriophage T7 genome that encodes 55 proteins and for Drosophila cell cycle regulators. However, the currently available two-hybrid methodol. is not suitable for a large-scale project without specific methodol. improvements. In particular, the exhaustivity and selectivity of the screens must first be greatly improved. We constructed a new yeast genomic library and developed a highly selective two-hybrid procedure adapted for exhaustive screens of the yeast genome. For each bait we selected a limited set of interacting preys that we classified in categories of distinct heuristic values. Taking into account this classification, new baits were chosen among preys and, in turn, used for second-round screens. Repeating this procedure several times led to the characterization of a network of interactions. Using known pre-mRNA splicing factors as initial baits, we were able to characterize new interactions between known splicing factors, identify new yeast splicing factors, including homologs of human SF1 and SAP49, and reveal novel potential functional **links** between cellular pathways. Using different cellular pathways as **anchor** points, this novel strategy allows us to envision the building of an interaction map of the yeast **proteome**. In addn., this two-hybrid strategy could be applied to other genomes and might help to resolve the human protein **linkage** map.

L23 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:210846 CAPLUS
DOCUMENT NUMBER: 126:186350
TITLE: Solid Phase Syntheses of Oligoureas
AUTHOR(S): Burgess, Kevin; Ibarzo, Javier; Linthicum, D. Scott; Shin, Hunwoo; Shitangkoon, Aroonsiri; Totani, Reiko; Zhang, Alex J.
CORPORATE SOURCE: Department of Chemistry, Texas A + M University, College Station, TX, 77843-3255, USA
SOURCE: J. Am. Chem. Soc. (1997), 119(7), 1556-1564
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Isocyanates, PhtNCH2CH(R)NCO (PhtN = N-phthaloyl, R = amino acid side chain) (I) were formed from monoprotected diamines such as PhtNCH2CH(R)NH2, which in turn can be easily prepd. from com. available N-BOC- or N-FMOC-protected amino acids. Formed in situ, I could be coupled directly to a solid support functionalized with amine groups or to amino acids **anchored** on resins using CH2Cl2 as solvent and an 11 h coupling time at 25.degree.. Such couplings afforded **peptidomimetics** with an N-phthaloyl group at the N-terminus. The optimal conditions for removing the Pht group included using 60% hydrazine in DMF for 1-3 h. Several

sequences of amino acids coupled to ureas (i.e., peptidic ureas) and of sequential urea units (i.e., oligoureas) were prepd. via solid-phase syntheses and were isolated by HPLC. A small library of 128 peptidic urea analogs of H-Tyr-Gly-Gly-Phe-Leu-NH2 was prepd. via Houghten's tea bag methodol. This library was tested for binding to the anti-.beta.-endorphin monoclonal antibody.

L23 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:89130 CAPLUS
DOCUMENT NUMBER: 124:172858
TITLE: Synthetic **peptide mimotope** of the CAMPATH-1 (CD52) antigen, a small glucosylphosphatidylinositol-**anchored** glycoprotein
AUTHOR(S): Hale, Geoffrey
CORPORATE SOURCE: Dep. Pathol., Univ. Cambridge, Cambridge, CB2 1QP, UK
SOURCE: Immunotechnology (1995), 1(3,4), 175-87
CODEN: IOTEER; ISSN: 1380-2933
DOCUMENT TYPE: Journal
LANGUAGE: English
AB CAMPATH-1 (CD52) antibodies are among the most powerful and specific lympholytic agents in humans and have numerous potential applications for human therapy. The CD52 antigen is a GPI-**anchored** glycoprotein with an exceptionally short peptide sequence of only 12 amino acids and a single, complex, N-**linked** oligosaccharide. Antibodies bind to the deglycosylated antigen and to a proteolytic fragment, but not to the synthetic peptide alone. Objectives were to characterize the antigenic epitope more precisely and to construct a synthetic analog. Such an analog would be useful for assay and purifn. of the therapeutic CAMPATH-1 antibodies as well as for studies of the antibody-antigen binding site. Collections of synthetic peptides based on the natural sequence were screened with a panel of CD52 antibodies. A synthetic peptide composed of the natural C-terminal amino acids plus two addnl. residues was found to mimic the antigen with sufficient affinity to be useful for a variety of assays and for construction of an affinity matrix for antibody purifn. Systematic mutation of this peptide enabled the definition of the crit. residues for antibody binding, which will be of great help in building a model of the antibody-antigen interaction. **Peptide mimotopes** synthesis using a natural sequence as a starting point, rather than a completely random library, may be useful in many other similar circumstances.

(FIL[redacted]NE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, [redacted]PLUS, JAPIO' ENTERED AT 11:49:39 ON 22 MAY 2002)
L24 38 S L22
[redacted] 37 S L24 [redacted] (1 DUPLICATES REMOVED)

L26 ANSWER 1 OF 18 MEDLINE
ACCESSION NUMBER: 2002219708 MEDLINE
DOCUMENT NUMBER: 21953337 PubMed ID: 11955007
TITLE: N-terminal N-myristoylation of proteins: refinement of the sequence motif and its taxon-specific differences.
AUTHOR: Maurer-Stroh Sebastian; Eisenhaber Birgit; Eisenhaber

Frank
CORPORATE SOURCE: Research Institute of Molecular Pathology, Dr. Bohr-Gasse 7, Vienna, A-1030, Austria..
stroh@nt.imp.univie.ac.at
SOURCE: JOURNAL OF MOLECULAR BIOLOGY, (2002 Apr 5) 317 (4) 523-40.
Journal code: 2985088R. ISSN: 0022-2836.
PUB. COUNTRY: England: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200205
ENTRY DATE: Entered STN: 20020417
Last Updated on STN: 20020505
Entered Medline: 20020503

AB N-terminal N-myristoylation is a lipid **anchor** modification of eukaryotic and viral proteins targeting them to membrane locations, thus changing the cellular function of modified proteins. Protein myristoylation is critical in many pathways; e.g. in signal transduction, apoptosis, or alternative extracellular protein export. The myristoyl-CoA:protein N-myristoyltransferase (NMT) recognizes the sequence motif of appropriate substrate proteins at the N terminus and attaches the lipid moiety to the absolutely required N-terminal glycine residue. Reliable recognition of capacity for N-terminal myristoylation from the substrate protein sequence alone is desirable for **proteome**-wide function annotation projects but the existing PROSITE motif is not practical, since it produces huge numbers of false positive and even some false negative predictions.As a first step towards a new prediction method, it is necessary to refine the sequence motif coding for N-terminal N-myristoylation. Relying on the in-depth study of the amino acid sequence variability of substrate proteins, on binding site analyses in X-ray structures or 3D homology models for NMTs from various taxa, and on consideration of biochemical data extracted from the scientific literature, we found indications that, at least within a complete substrate protein, the N-terminal 17 protein residues experience different types of variability restrictions. We identified three motif regions: region 1 (positions 1-6) fitting the binding pocket; region 2 (positions 7-10) interacting with the NMT's surface at the mouth of the catalytic cavity; and region 3 (positions 11-17) comprising a hydrophilic **linker**. Each region was characterized by physical requirements to single sequence positions or groups of positions regarding volume, polarity, backbone flexibility and other typical properties of amino acids (http://mendel.imp.univie.ac.at/myristate/). These specificity differences are confined partly to taxonomic ranges and are proposed for the design of NMT inhibitors in pathogenic fungal and protozoan systems including Aspergillus fumigatus, Leishmania major, Trypanosoma cruzi, Trypanosoma brucei, Giardia intestinalis, Entamoeba histolytica, Pneumocystis carinii, Strongyloides stercoralis and Schistosoma mansoni. An exhaustive search for NMT-homologues led to the discovery of two putative entomopoxviral NMTs.

L26 ANSWER 2 OF 18 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2002171738 MEDLINE
DOCUMENT NUMBER: 21900541 PubMed ID: 11903053

TITLE: Major outer membrane proteins and proteolytic processing of RgpA and Kgp of Porphyromonas gingivalis W50.

AUTHOR: Veith Paul D; Talbo Gert H; Slakeski Nada; Dashper Stuart G; Moore Caroline; Paolini Rita A; Reynolds Eric C

CORPORATE SOURCE: School of Dental Science, The University of Melbourne, 711 Elizabeth Street, Melbourne, Victoria, 3000, Australia.

SOURCE: BIOCHEMICAL JOURNAL, (2002 Apr 1) 363 (Pt 1) 105-15.
Journal code: 2984726R. ISSN: 0264-6021.

PUB. COUNTRY: England: United Kingdom
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200205
ENTRY DATE: Entered STN: 20020321
Last Updated on STN: 20020518
Entered Medline: 20020517

AB Porphyromonas gingivalis is an anaerobic, asaccharolytic Gram-negative rod associated with chronic periodontitis. We have undertaken a **proteomic** study of the outer membrane of P. gingivalis strain W50 using two-dimensional gel electrophoresis and peptide mass fingerprinting. Proteins were identified by reference to the pre-release genomic sequence of P. gingivalis available from The Institute for Genomic Research. Out of 39 proteins identified, five were TonB-**linked** outer membrane receptors, ten others were putative integral outer membrane proteins and four were putative lipoproteins. Pyroglutamate was found to be the N-terminal residue of seven of the proteins, and was predicted to be the N-terminal residue of 13 additional proteins. The RgpA, Kgp and HagA polyproteins were identified as fully processed domains in outer membranes prepared in the presence of proteinase inhibitors. Several domains were found to be C-terminally truncated 16-57 residues upstream from the N-terminus of the following domain, at a residue penultimate to a lysine. This pattern of C-terminal processing was not detected in a W50 strain isogenic mutant lacking the lysine-specific proteinase Kgp. Construction of another W50 isogenic mutant lacking the arginine-specific proteinases indicated that RgpB and/or RgpA were also involved in domain processing. The C-terminal adhesin of RgpA, designated RgpA27, together with RgpB and two newly identified proteins designated P27 and P59 were found to migrate on two-dimensional gels as vertical streaks at a molecular mass 13-42 kDa higher than that calculated from their gene sequences. The electrophoretic behaviour of these proteins, together with their immunoreactivity with a monoclonal antibody that recognizes lipopolysaccharide, is consistent with a modification that could **anchor** the proteins to the outer membrane.

L26 ANSWER 3 OF 18 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2002063099 MEDLINE
DOCUMENT NUMBER: 21648986 PubMed ID: 11788991
TITLE: Generating addressable protein microarrays with PROfusion covalent mRNA-protein fusion technology.
AUTHOR: Weng Shawn; Gu Ke; Hammond Philip W; Lohse Peter; Rise Cecil; Wagner Richard W; Wright Martin C; Kuimelis Robert G
CORPORATE SOURCE: Phylos, Lexington, MA 02421, USA.

SOURCE: Proteomics, (2002 Jan) 2 (1) 48-57.
Journal code: 101092707. ISSN: 1615-9853.
PUB. COUNTRY: Germany: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200203
ENTRY DATE: Entered STN: 20020125
Last Updated on STN: 20020314
Entered Medline: 20020313

AB An mRNA-protein fusion consists of a polypeptide covalently **linked** to its corresponding mRNA. These species, prepared individually or en masse by in vitro translation with a modified mRNA **conjugate** (the PROfusion process), **link** phenotype to genotype and enable powerful directed evolution schemes. We have exploited the informational content of the nucleic acid component of the mRNA-protein fusion to create an addressable protein microarray that self-assembles via hybridization to surface-bound DNA capture probes. The nucleic acid component not only directs the mRNA-protein fusion to the proper coordinate of the microarray, but also positions the protein in a uniform orientation. We demonstrate the feasibility of this protein chip concept with several mRNA-protein fusions, each possessing a unique peptide epitope sequence. These addressable proteins could be visualized on the microarray both by autoradiography and highly specific monoclonal antibody binding. The **anchoring** of the protein to the chip surface is surprisingly robust, and the system is sensitive enough to detect sub-attomole quantities of displayed protein without signal amplification. Such protein arrays should be useful for functional screening in massively parallel formats, as well as other applications involving immobilized peptides and proteins.

L26 ANSWER 4 OF 18 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-114573 [15] WPIDS
DOC. NO. CPI: C2002-035286
TITLE: Immobilizing polypeptides, by contacting them to **anchor** molecules having nucleophile, so the ester/thioester groups of the polypeptides undergo trans-esterification to attach them to the **anchor** molecules on the surface.
DERWENT CLASS: B04 D16
INVENTOR(S): NOCK, S; SYDOR, J
PATENT ASSIGNEE(S): (ZYOM-N) ZYOMYX INC
COUNTRY COUNT: 96
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001098458	A2	20011227	(200215)*	EN	61
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2001069906	A	20020102	(200230)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001098458 A2		WO 2001-US19531	20010619
AU 2001069906 A		AU 2001-69906	20010619

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001069906 A	Based on		WO 200198458

PRIORITY APPLN. INFO: US 2000-212620P 20000619
AN 2002-114573 [15] WPIDS
AB WO 200198458 A UPAB: 20020306
NOVELTY - Immobilizing a polypeptide (I) comprising an ester or thioester (E/T) to a surface, by contacting (I) to an **anchor** molecule (II) comprising a nucleophilic group (N1) at 2 or 3 position relative to a second nucleophilic group, so the E/T undergoes a trans-esterification reaction with N1 to form an intermediate compound in which (I) is attached to (II) through N1, and attaching (II) to the surface.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an array (A1) of immobilized polypeptides attached to a surface (A1 comprises at least a first polypeptide species and a second polypeptide species and each of the polypeptide species are attached to a separate region of the surface in same orientation, and are folded in a secondary structure as required for a biological activity);

(2) an array (A2) of immobilized polypeptides attached to a surface which comprises a number of surface regions (each surface region has attached to a polypeptide species and a polynucleotide that encodes the polypeptide species);

(3) screening (M1) a library of nucleic acids to identify a nucleic acids that encodes a polypeptide having a desired activity, by expressing a number of fusion proteins, each of which is encoded by an expression cassette that comprises a member of the library of nucleic acids, an intein coding region, and an open reading frame that encodes a polypeptide that is displayed on a surface of a replicable genetic package (the fusion proteins are displayed on the surface of a replicable genetic package) and screening the replicable genetic packages to identify those that display a polypeptide having the desired activity;

(4) a nucleic acid (III) that comprises an expression cassette, comprising an insertion site at which a polynucleotide can be introduced into the expression cassette, an intein coding region (the carboxy terminus of the intein coding region is mutated so that it does not function as a splice junction for intein-mediated cleavage), and an open reading frame that encodes a polypeptide that is displayed on a surface of a replicable genetic package (the introduction of a polynucleotide at the insertion site results in an open reading frame that encodes a fusion protein which comprises a polypeptide encoded by the polynucleotide) which polypeptide is attached at its carboxyl terminus to an amino terminus of the intein, and the surface-displayed polypeptide is attached to the

carboxy terminus of the intein; and

(5) a kit for use in immobilizing one or more polypeptides containing E/T to a surface of a substrate, comprising an **anchor** molecule reagent for adapting E/T containing polypeptide to the surface.

USE - The methods are useful for immobilizing polypeptides and for forming arrays of polypeptides (claimed). The immobilized polypeptides are useful for **proteomics** and high-throughput screening.

ADVANTAGE - The immobilized polypeptides are generally in the same orientation, are of full length and biologically active, and can be readily screened for a desired activity.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic representation of methods for immobilizing a polypeptide comprising a thioester or ester to a surface.

Dwg.1/3

L26 ANSWER 5 OF 18 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 2002-171346 [22] WPIDS

DOC. NO. CPI: C2002-052842

TITLE: Isolated polypeptide, Mrg, which is a G-protein coupled receptor and an isolated polypeptide, drg-12, which is also a receptor, useful for identifying agonists or antagonists for treating pain.

DERWENT CLASS: B04 D16

INVENTOR(S): ANDERSON, D J; DONG, X; HAN, S; SIMON, M; ZYLKA, M

PATENT ASSIGNEE(S): (CALY) CALIFORNIA INST OF TECHNOLOGY

COUNTRY COUNT: 94

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001083555	A2	20011108	(200222)*	EN	181

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001059508 A 20011112 (200225)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001083555	A2	WO 2001-US14519	20010504
AU 2001059508	A	AU 2001-59508	20010504

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2001059508	A Based on	WO 200183555

PRIORITY APPLN. INFO: US 2001-285493P 20010419; US 2000-202027P 20000504; US 2000-222344P 20000801; US

2000-704707 20001103

AN 2002-171346 [22] WPIDS

AB WO 200183555 A UPAB: 20020409

NOVELTY - An isolated polypeptide (I) with about 40% identity to at least one Mrg polypeptide selected from polypeptides comprising the 52 fully defined amino acid (aa) sequences (Smrg) given in the specification and an isolated polypeptide (II) with about 35% identity to at least one drg-12 polypeptide selected from the 3 fully defined 135 aa sequences (Sdrg) given in the specification, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated nucleic acid molecule (III) with at least 80% identity to:

(a) a nucleic acid molecule that encodes (I); or

(b) the complement of (a);

(2) an isolated nucleic acid molecule (IV) with at least 80% identity to:

(a) a nucleic acid molecule that encodes (II); or

(b) the complement of (a);

(3) an isolated nucleic acid molecule (V) that hybridizes to (III);

(4) an isolated nucleic acid molecule (VI) that hybridizes to (IV);

(5) a vector (VII) comprising (III) or (IV);

(6) a host cell (VIII) comprising (VII);

(7) producing (M1) a polypeptide;

(8) an isolated polypeptide produced by (M1);

(9) a chimeric molecule (IX) comprising a Mrg polypeptide fused to a heterologous aa sequence;

(10) a chimeric molecule (X) comprising a drg-12 polypeptide fused to a heterologous aa sequence;

(11) an isolated antibody (XI) that specifically binds to a Mrg polypeptide that is at least 80% identical to (Smrg);

(12) an isolated antibody (XII) that specifically binds to a drg-12 polypeptide that is at least 80% identical to (Sdrg);

(13) a composition (XIII) comprising:

(a) a Mrg polypeptide;

(b) a drg-12 polypeptide;

(c) an anti-Mrg antibody; or

(d) an anti-drg-12 antibody;

(14) an article of manufacture comprising:

(a) a container;

(b) (XIII); and

(c) instructions for use to treat impaired sensory perception;

(15) identifying (M2) Mrg expression in a sample comprising contacting the sample with an anti-Mrg antibody and determining binding of the antibody to the sample;

(16) identifying (M3) a compound that binds to a Mrg polypeptide comprising:

(a) contacting a test compound with at least a portion of a Mrg polypeptide; and

(b) detecting Mrg/test compound complexes;

(17) identifying (M4) a compound that binds a Mrg polypeptide comprising:

(a) contacting Mrg or a fragment with a test compound and a known ligand, where binding can occur; and

(b) determining the ability of the test compound to interfere

with binding of the known ligand, preferably where Mrg is contacted with the ligand (especially RFamide peptide) prior to contact with the test compound;

(18) identifying (M5) a compound that modulates expression of a nucleic acid encoding a Mrg receptor, comprising:

(a) exposing a host cell transformed with a nucleic acid encoding a chimeric polypeptide comprising a Mrg polypeptide and a reporter protein to a test compound; and

(b) determining if there is differential expression of the reporter gene in cells exposed to the compound compared to control cells;

(19) identifying (M6) a Mrg polypeptide agonist, comprising:

(a) contacting a host cell known to be capable of producing a second messenger response and expressing a Mrg polypeptide with a potential agonist; and

(b) measuring a second messenger response;

(20) identifying (M7) a Mrg polypeptide antagonist, comprising:

(a) contacting a host cell known to be capable of producing a second messenger response and expressing a Mrg polypeptide with a known Mrg polypeptide agonist and a candidate antagonist; and

(b) measuring a second messenger response;

(21) identifying (M8) a Mrg polypeptide agonist/neutralizing antibody, comprising:

(a) preparing a candidate agonist/neutralizing antibody that binds Mrg;

(b) contacting a host cell known to be capable of producing a second messenger response and expressing Mrg with the candidate agonist/neutralizing antibody; and

(c) measuring a second messenger response; and

(22) a transgenic non-human mammal (XIV) with increased or decreased expression levels of Mrg, where (XIV) has stably integrated into its genome a nucleic acid encoding Mrg which is at least 80% identical to (Smrg).

ACTIVITY - Analgesic.

No supporting data available.

MECHANISM OF ACTION - Mrg agonist/antagonist (claimed);

Mrg is a receptor protein with a 7 transmembrane segment characteristic of a G protein-coupled receptor; drg-12 is also a receptor. Hydrophobicity plots of the encoded aa sequences of the mrg-family genes predicts membrane proteins with 7 transmembrane segments. Such a structure is characteristic of receptors that signal through 'G-proteins'. G proteins are a family of cytoplasmic molecules that activate or inhibit enzymes involved in the generation or degradation of 'second messenger' molecules, such as cyclic nucleotides (cAMP, cGMP), IP3 and intracellular free calcium (Ca++). Selected MrgA genes were tested in a calcium release assay comprising cloning into a eukaryotic expression vector and transfection into human embryonic kidney (HEK) 293 cells (HEK293-G alpha 15 cell line expressing G alpha 15). Calcium release was monitored ratiometrically using Fura-2 as a fluorescent indicator dye (Tsien et al. Cell Calcium 6:1 45-57 (1985)). At a concentration of 1(M, numerous neuropeptides were used and produced some level of activation of MrgA-expressing cells as measured by calcium release. These included neuropeptides such as somatostatin (SST), neuropeptide Y (NPY), adrenocorticotropic hormone (ACTH), Calcitonin-Gene Related Peptide-I (CGRP-I) and -II. Nevertheless, many other peptide hormones did not activate MRGA, including angiotensins I-III and neurokinins A and B, alpha-MSH and

gamma2-MSH. MrgA was only very weakly activated by ecosanoid ligands such as Prostaglandin-E1 and Arachidonic Acid. The most efficient response was elicited by RFamide peptides, including FLRF and the molluscan cardioactive neuropeptide FMRFamide, where over 80% of cells were observed to respond. The top candidate ligands emerging from the initial screen were tested on the same receptors in HEK cells lacking G15. The MrgA expressed retained responses to RFamide peptides, demonstrating that the intracellular Ca++ release is not dependent on the presence of exogenous G15. This indicates that MrgAs act in HEK cells via Gq or Gi.

USE - (I) is useful for identifying compounds that bind to it, especially agonists or antagonists. Administration of an agent (e.g., the identified agonist) that increases the expression of Mrg at least 80% identical to (Smrg) in a mammal may be used for treating impaired sensory perception in a mammal, especially pain. The antagonist may also be useful for treating impaired sensory perception in a mammal (all claimed).

Dwg.0/0

L26 ANSWER 6 OF 18 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2001-273332 [28] WPIDS
DOC. NO. CPI: C2001-082822
TITLE: Method for manufacturing template-fixed beta-hairpin loop mimetics, useful for designing small **peptidomimetic** drug candidates, involves process based on mixed solid and solution phase synthetic strategy.
DERWENT CLASS: A97 B02 B03 B04
INVENTOR(S): OBRECHT, D; ROBINSON, J A
PATENT ASSIGNEE(S): (POLY-N) POLYPHOR AG
COUNTRY COUNT: 88
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001016161	A1	20010308	(200128)*	EN	83

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

AU 9958566	A	20010326	(200137)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001016161	A1	WO 1999-EP6369	19990830
AU 9958566	A	AU 1999-58566	19990830
		WO 1999-EP6369	19990830

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9958566	A	Based on	WO 200116161

PRIORITY APPLN. INFO: WO 1999-EP6369 19990830
AN 2001-273332 [28] WPIDS
AB WO 200116161 A UPAB: 20010522
NOVELTY - Manufacturing template-fixed, beta-hairpin loop **peptidomimetics** (I) comprising employing a process that is based on a mixed solid and solution phase synthetic strategy, is new.

DETAILED DESCRIPTION - Manufacture of template-fixed, beta-hairpin loop **peptidomimetics** of formula (I) comprises:

(1) coupling an appropriately functionalized solid support with an appropriately N-protected derivative of that amino acid, which in the desired end product is in position n/2, n/2 + 1 or n/2 - 1, if n is an even number and, respectively, in position n/2 + one half or n/2 - one half if n is an odd number, where any functional group that may be present in the N-protected amino acid derivative is also appropriately protected;

(2) removing the N-protecting group from the product obtained;

(3) coupling the product obtained with an appropriate N-protected derivative of that amino acid which in the desired end-product is one position nearer the N-terminal amino acid residue, where any functional group which may be present in the N-protected amino acid derivative is also appropriately protected;

(4) removing the N-protecting group from the product obtained;

(5) repeating, if necessary, steps (3) and (4) until the N-terminal amino acid residue has been introduced;

(6) coupling the product obtained with a compound of the general formula (II); or alternatively

(i) coupling the product obtained in step (4) or (5) with a compound of the general formula (III);

(ii) removing the N-protecting group from the product obtained; and

(iii) coupling the product obtained with an appropriately N-protected derivative of D-proline;

(7) removing the N-protecting group from the product obtained in (6) or (6iii);

(8) coupling the product obtained with an N-protected derivative of that amino acid which in the desired end-product is in position n, any functional group which may be present in the N-protected amino acid derivative also being protected;

(9) removing the N-protecting group from the product obtained;

(10) coupling the product obtained with an N-protected derivative of that amino acid which in the desired end-product is one position farther away from position n, where any functional group which may be present in the N-protected amino acid derivative is also protected;

(11) removing the N-protecting group from the product obtained;

(12) repeating, if necessary, steps (10) and (11) until all amino acid residues have been introduced;

(13) detaching the product obtained from the solid support;

(14) cyclizing the product cleaved from the solid support;

(15) removing any protecting groups present on functional groups of any members of the chain of amino acid residues and, if desired, any protecting group(s) which may in addition be present in the molecule; and

(16) if desired, converting the product obtained into a salt, or converting an obtained salt into the corresponding free compound of formula (I), or into a different salt.

Z = a chain of n alpha -amino acid residues which, if their alpha -C atom is asymmetric, have L-configuration, the positions of the amino acid residues in the chain is counted starting from the N-terminal amino acid;

n = an integer from 4-20;

-CO-Template- = a group of formula (a)-(h);

R1 = H or protected amino group;

R2 = H or CH2-COOR10;

R3 = an amino-protecting group;

R4 = lower alkyl or aryl-lower alkyl;

R5 = lower alkyl, lower alkoxy or aryl;

R6, R7 = H, lower alkyl, substituted lower alkyl, aryl, Br or NO2;

R8, R9 = lower alkyl, substituted lower alkyl or aryl-lower alkyl;

R10 = H, lower alkyl, substituted lower alkyl, aryl, aryl-lower alkyl, aroyl-lower alkyl or allyl; and

X = an N-protecting group.

An INDEPENDENT CLAIM is also included for (I) and their enantiomers with the provisos that if -CO-Template is:

(i) group (a) and R1 is H, then Z is not VKNYGVKNSEWI, VKNYGVKNSEWT, GRGD, RGDG, FYTGT, YRDAM, NTYSGV, WDDGSD or LWYSNHWV;

(ii) group (b) and R2 is H or CH2COOH, or group (c) and R3 is benzoyl, or group (d) or group (e), then Z is not ANPNAA;

(iii) group (b) and R2 is H, then Z is not ARGD;

(iv) group (f), R4 is methyl, R5 is methoxy and R6 and R7 are H, then Z is not VAAFLALA, RGDV, ATVG, ERGDVY, IARGDFPD, ARIARGDFPDDR, ARGDFP, RGDF or RIARGDFPDD;

(v) group (g) and R8 is methyl and R9 is methyl or n-hexyl, or group (h) and R8 and R9 are ethyl, then Z is not RGDV;

(vi) group (g) and R8 is methyl and R9 is methyl or benzyl, then Z is not GGAG;

(vii) group (g) and R8 and R9 are methyl, then Z is not GDGG; and

(viii) group (g) and R8 is methyl and R9 is n-hexyl, then Z is not VRKK.

USE - The method is useful for synthesizing template-fixed beta -hairpin loop mimetics. It is also useful for determining key amino acids and motifs important for binding large surface and flat protein interfaces in their sequential and/or spatial arrangement. This information can ultimately be used for the design of small peptidomimetic drug candidates. (I) may be used to probe large surface protein-protein interactions and to find protein targets. Dwg.1/1

L26 ANSWER 7 OF 18 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 2001490429 MEDLINE
DOCUMENT NUMBER: 21423935 PubMed ID: 11423539
TITLE: A non-Golgi alpha 1,2-fucosyltransferase that modifies Skp1 in the cytoplasm of Dictyostelium.
AUTHOR: van Der Wel H; Morris H R; Panico M; Paxton T; North S J; Dell A; Thomson J M; West C M
CORPORATE SOURCE: Department of Anatomy and Cell Biology, University of Florida College of Medicine, Gainesville, Florida 32610-0235 and the Department of Biochemistry, Imperial College, London SW7 2AY United Kingdom.
CONTRACT NUMBER: GM-37539 (NIGMS)
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (2001 Sep 7) 276

(36) 33952-63.
Journal code: HIV; 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF279134
ENTRY MONTH: 200110
ENTRY DATE: Entered STN: 20010905
Last Updated on STN: 20011015
Entered Medline: 20011011

AB Skp1 is a subunit of the SCF-E3 ubiquitin ligase that targets cell cycle and other regulatory factors for degradation. In Dictyostelium, Skp1 is modified by a pentasaccharide containing the type 1 blood group H trisaccharide at its core. To address how the third sugar, fucose alpha1,2-**linked** to galactose, is attached, a **proteomics** strategy was applied to determine the primary structure of FT85, previously shown to copurify with the GDP-Fuc:Skp1 alpha 1,2-fucosyltransferase. Tryptic-generated peptides of FT85 were sequenced de novo using Q-TOF tandem mass spectrometry. Degenerate primers were used to amplify FT85 genomic DNA, which was further extended by a novel **linker** polymerase chain reaction method to yield an intronless open reading frame of 768 amino acids. Disruption of the FT85 gene by homologous recombination resulted in viable cells, which had altered light scattering properties as revealed by flow cytometry. FT85 was necessary and sufficient for Skp1 fucosylation, based on biochemical analysis of FT85 mutant cells and Escherichia coli that express FT85 recombinantly. FT85 lacks sequence motifs that characterize all other known alpha 1,2-fucosyltransferases and lacks the signal-**anchor** sequence that targets them to the secretory pathway. The C-terminal region of FT85 harbors motifs found in inverting Family 2 glycosyltransferase domains, and its expression in FT85 mutant cells restores fucosyltransferase activity toward a simple disaccharide substrate. Whereas most prokaryote and eukaryote Family 2 glycosyltransferases are membrane-bound and oriented toward the cytoplasm where they glycosylate lipid-**linked** or polysaccharide precursors prior to membrane translocation, the soluble, eukaryotic Skp1-fucosyltransferase modifies a protein that resides in the cytoplasm and nucleus.

L26 ANSWER 8 OF 18 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 2001467842 MEDLINE
DOCUMENT NUMBER: 21405137 PubMed ID: 11514149
TITLE: Thrombin receptor (PAR-1) antagonists. Solid-phase synthesis of indole-based **peptide mimetics** by **anchoring** to a secondary amide.
AUTHOR: Zhang H C; McComsey D F; White K B; Addo M F; Andrade-Gordon P; Derian C K; Oksenberg D; Maryanoff B E
CORPORATE SOURCE: Drug Discovery, The R. W. Johnson Pharmaceutical Research Institute, Spring House, PA 19477-0776, USA.. hzhang@prius.jnj.com
SOURCE: BIOORGANIC AND MEDICINAL CHEMISTRY LETTERS, (2001 Aug 20) 11 (16) 2105-9.
Journal code: C8B; 9107377. ISSN: 0960-894X.
PUB. COUNTRY: England: United Kingdom

Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200110
ENTRY DATE: Entered STN: 20010830
Last Updated on STN: 20011008
Entered Medline: 20011004

AB A novel, 10-step, solid-phase method, based on a secondary amide **linker**, was developed to construct a diverse library of indole-based SFLLR **peptide mimetics** as thrombin receptor (protease-activated receptor 1, PAR-1) antagonists. The key steps include stepwise reductive alkylation, urea formation, and Mannich reaction. Screening of the library led to a quick development of the SAR and the significant improvement of PAR-1 activity.

L26 ANSWER 9 OF 18 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 2001573792 MEDLINE
DOCUMENT NUMBER: 21537933 PubMed ID: 11680872
TITLE: Annotation of glycoproteins in the SWISS-PROT database.
AUTHOR: Jung E; Veuthey A L; Gasteiger E; Bairoch A
CORPORATE SOURCE: Swiss Institute of Bioinformatics, Central Clinical Chemistry Laboratory, Geneva University Hospital, Geneva, Switzerland.
SOURCE: Proteomics, (2001 Feb) 1 (2) 262-8.
Journal code: 101092707. ISSN: 1615-9853.
PUB. COUNTRY: Germany: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 20011030
Last Updated on STN: 20020123
Entered Medline: 20011218

AB SWISS-PROT is a protein sequence database, which aims to be nonredundant, fully annotated and highly cross-referenced. Most eukaryotic gene products undergo co- and/or post-translational modifications, and these need to be included in the database in order to describe the mature protein. SWISS-PROT includes information on many types of different protein modifications. As glycosylation is the most common type of post-translational protein modification, we are currently placing an emphasis on annotation of protein glycosylation in SWISS-PROT. Information on the position of the sugar within the polypeptide chain, the reducing terminal **linkage** as well as additional information on biological function of the sugar is included in the database. In this paper we describe how we account for the different types of protein glycosylation, namely N-**linked** glycosylation, O-**linked** glycosylation, proteoglycans, C-**linked** glycosylation and the attachment of glycosyl-phosphatidylinosital **anchors** to proteins.

L26 ANSWER 10 OF 18 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 2001:770071 SCISEARCH
THE GENUINE ARTICLE: 475BT
TITLE: Review: Prediction of in vivo fates of proteins in the era of genomics and **proteomics**

AUTHOR: Nakai K (Reprint)
CORPORATE SOURCE: Univ Tokyo, Inst Med Sci, Ctr Human Genome, Minato Ku, 4-6-1 Shirokanedai, Tokyo 1088639, Japan (Reprint); Univ Tokyo, Inst Med Sci, Ctr Human Genome, Minato Ku, Tokyo 1088639, Japan
COUNTRY OF AUTHOR: Japan
SOURCE: JOURNAL OF STRUCTURAL BIOLOGY, (MAY-JUN 2001) Vol. 134, No. 2-3, pp. 103-116.
Publisher: ACADEMIC PRESS INC, 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495 USA.
ISSN: 1047-8477.
DOCUMENT TYPE: General Review; Journal
LANGUAGE: English
REFERENCE COUNT: 130

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Even after a nascent protein emerges from the ribosome, its fate is still controlled by its own amino acid sequence information. Namely, it may be co-/posttranslationally modified (e.g., phosphorylated, N-/O-glycosylated, and lipidated); it may be inserted into the membrane, translocated to an organelle, or secreted to the outside milieu; it may be processed for maturation or selective degradation; finally, its fragment may be presented on the cell surface as an antigen. Here, prediction methods of such protein fates from their amino acid sequences are reviewed. In many cases, artificial neural network techniques have been effectively used. The prediction of in vivo fates of proteins will be useful for characterizing newly identified candidate genes in a genome or for interpreting multiple spots in **proteome** analyses. (C) 2001 Academic Press.

L26 ANSWER 11 OF 18 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 2000:848408 SCISEARCH
THE GENUINE ARTICLE: 371EU
TITLE: Analysis of glycosyl phosphatidylinositol-**anchored** proteins by two-dimensional gel electrophoresis
AUTHOR: Fivaz M; Vilbois F; Pasquali C; vanderGoot F G (Reprint)
CORPORATE SOURCE: UNIV GENEVA, DEPT BIOCHEM, 30 QUAI ERNEST ANSERMET, CH-1211 GENEVA 4, SWITZERLAND (Reprint); UNIV GENEVA, DEPT BIOCHEM, CH-1211 GENEVA 4, SWITZERLAND; SERONO PHARMACEUT RES INST PLAS LES OUATES, GENEVA, SWITZERLAND
COUNTRY OF AUTHOR: SWITZERLAND
SOURCE: ELECTROPHORESIS, (OCT 2000) Vol. 21, No. 16, pp. 3351-3356.
Publisher: WILEY-V C H VERLAG GMBH, PO BOX 10 11 61, D-69451 BERLIN, GERMANY.
ISSN: 0173-0835.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 23

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The aim of this study was to characterize mammalian glycosyl phosphatidylinositol (GPI)-**anchored** proteins y two-dimensional gel electrophoresis using immobilized pH gradients. Analysis was performed on detergent-resistant membrane fractions of

baby hamster kidney (BHK) cells, since such fractions have previously been shown to be highly enriched in GPI-**anchored** proteins. Although the GPI-**anchored** proteins were readily separated by one-dimensional sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE), these proteins were undetectable on two-dimensional (2-D) gels, even though these gels unambiguously revealed high enrichment of known hydrophobic proteins of detergent-resistant membranes such as caveolin-1 and flotillin-1 (identified by Western blotting and tandem mass spectrometry, respectively). Proper separation of GPI-**anchored** proteins required cleavage of the lipid tail with phosphatidylinositol-specific phospholipase C, presumably to avoid interference of the hydrophobic phospholipid moiety of GPI-**anchors** during isoelectric focusing. Using this strategy, BHK cells were observed to contain at least six GPI-**anchored** proteins. Each protein was also present as multiple isoforms with different isoelectric points and apparent molecular weights, consistent with extensive but differential N-glycosylation. Pretreatment with N-glycosidase F indeed caused the different isoforms of each protein to collapse into a single spot. In addition, quantitative removal of N-**linked** sugars greatly facilitated the detection of heavily glycosylated proteins and enabled sequencing by nanoelectrospray-tandem mass spectrometry as illustrated for the GPI-**anchored** protein, Thy-1.

L26 ANSWER 12 OF 18 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 2000275391 MEDLINE
DOCUMENT NUMBER: 20275391 PubMed ID: 10814235
TITLE: Novel hydrazino-carbonyl-amino-methylated polystyrene (HCAM) resin methodology for the synthesis of P1-aldehyde protease inhibitor candidates.
AUTHOR: Siev D V; Semple J E
CORPORATE SOURCE: Department of Medicinal Chemistry, Corvas International, Inc., San Diego, California 92121, USA.
SOURCE: ORGANIC LETTERS, (2000 Jan) 2 (1) 19-22. Journal code: DLN; 100890393. ISSN: 1523-7060.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200006
ENTRY DATE: Entered STN: 20000629
Last Updated on STN: 20000629
Entered Medline: 20000616

AB [structure: see text] A new strategy for the synthesis of peptidyl and **peptidomimetic** P1-aldehydes 3 on HCAM solid support is described. The appropriate C-terminal aldehyde precursors were prepared and **anchored** to a resin support via a semicarbazone **linkage** (HCAM resin). After synthetic elaboration, acidic hydrolysis efficiently delivered C-terminal target aldehydes 3a-h in good overall yields and in excellent purity.

L26 ANSWER 13 OF 18 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 1998:608905 SCISEARCH
THE GENUINE ARTICLE: 107DB
TITLE: Active carbonate resins: Application to the

solid-phase synthesis of alcohol, carbamate and cyclic peptides
AUTHOR: Alsina J; Rabanal F; Chiva C; Giralt E; Albericio F (Reprint)
CORPORATE SOURCE: UNIV BARCELONA, DEPT ORGAN CHEM, E-08028 BARCELONA, SPAIN (Reprint); UNIV BARCELONA, DEPT ORGAN CHEM, E-08028 BARCELONA, SPAIN
COUNTRY OF AUTHOR: SPAIN
SOURCE: TETRAHEDRON, (20 AUG 1998) Vol. 54, No. 34, pp. 10125-10152.
Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND.
ISSN: 0040-4020.
DOCUMENT TYPE: General Review; Journal
FILE SEGMENT: PHYS; LIFE
LANGUAGE: English
REFERENCE COUNT: 105
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB N,N'-disuccinimidyl carbonate (DSC) has been successfully used to generate carbonates and carbamates on conventional hydroxymethyl and aminomethyl based resins. This methodology extends the applicability of such **linkers**, which were initially designed for the **anchoring** of carboxylic acids. Thus, amino and hydroxy groups have been attached onto classical resins to give straightforward access to the solid-phase synthesis of alcohols, carbamates, and cyclic peptides with an evident pharmaceutical interest.

L26 ANSWER 14 OF 18 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 1998380126 MEDLINE
DOCUMENT NUMBER: 98380126 PubMed ID: 9716269
TITLE: Targeting of CFTR protein is **linked** to the polarization of human pancreatic duct cells in culture.
AUTHOR: Hollande E; Fanjul M; Chemin-Thomas C; Devaux C; Demolombe S; Van Rietschoten J; Guy-Crotte O; Figarella C
CORPORATE SOURCE: Laboratoire de Cytophysiologie des Cellules Eucaryotes, Universite Paul Sabatier, Toulouse/France.
SOURCE: EUROPEAN JOURNAL OF CELL BIOLOGY, (1998 Jul) 76 (3) 220-7.
Journal code: EM7; 7906240. ISSN: 0171-9335.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199811
ENTRY DATE: Entered STN: 19990106
Last Updated on STN: 19990106
Entered Medline: 19981113

AB A relationship between targeting of the protein CFTR (Cystic Fibrosis Transmembrane conductance Regulator) and cellular polarization has been observed in various types of epithelial cells. However, there are no reports on this in human exocrine pancreatic cells, which are functionally altered in patients with cystic fibrosis. The expression of CFTR and its targeting to apical plasma

membranes was investigated during growth and polarization of human ductal pancreatic cancerous Capan-1 cells. Despite their neoplastic origin, the cancerous pancreatic duct cells of the Capan-1 line secrete Cl- and HCO3- ions. We showed by electron microscopy, impregnation of cells with tannin and freeze-fracture that these cells become polarized during growth in culture, and are joined by tight junctions. The expression of CFTR and the various stages in its **anchorage** to membranes was followed using a specific polyclonal antibody, ECL-885, directed against a synthetic **peptide mimicking** one of the extracellular loops of CFTR. Qualitative and quantitative confocal microscopic studies showed that: (i) the expression of CFTR was constant during growth, irrespective of cellular conformation, (ii) the number of cells presenting CFTR **anchored** to membranes increased with time in culture, (iii) the rise in membrane-bound CFTR-immunoreactivity accompanied the polarization of the cells, (iv) CFTR **anchored** to plasma membranes was distributed regularly over the surface of non-polarized cells, but was localized only at the apical membranes of the polarized cells. Moreover, patch-clamp studies indicated the presence of few Cl- cAMP-dependent conductance CFTR channels on unpolarized cells, and a larger number of CFTR channels on the apical plasma membranes of polarized cells. These results indicated that the **anchorage** of a functional CFTR to the plasma membrane is progressive and occurs in step with polarization of these human pancreatic duct cells in culture. We suggest that the targeting of CFTR to the apical membranes is directly **linked** to the process of cellular polarization.

L26 ANSWER 15 OF 18 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 1997-393257 [36] WPIDS
CROSS REFERENCE: 1998-530938 [45]
DOC. NO. CPI: C1997-126256
TITLE: Synthesis of conformation restricted peptide(s) or amino acids - by subjecting a peptide/amino acid precursor, containing two unsaturated C-C bonds, to ring closing metathesis using, e.g., a ruthenium or osmium carbene catalyst.
DERWENT CLASS: B04 B05 E19
INVENTOR(S): BLACKWELL, H E; GRUBBS, R H; MILLER, J S
PATENT ASSIGNEE(S): (CALY) CALIFORNIA INST OF TECHNOLOGY
COUNTRY COUNT: 71
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9726002	A1	19970724	(199736)*	EN	54
RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG					
W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN					
AU 9661629	A	19970811	(199747)		
EP 880357	A1	19981202	(199901)	EN	
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9726002	A1	WO 1996-US9591	19960607
AU 9661629	A	AU 1996-61629	19960607
EP 880357	A1	EP 1996-919234	19960607
		WO 1996-US9591	19960607

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9661629	A	Based on	WO 9726002
EP 880357	A1	Based on	WO 9726002

PRIORITY APPLN. INFO: US 1996-10170P 19960117
AN 1997-393257 [36] WPIDS
CR 1998-530938 [45]
AB WO 9726002 A UPAB: 19981111
Synthesis of conformationally restricted peptides or amino acids by ring closing metathesis (RCM), comprises: (a) contacting a peptide or amino acid precursor, **anchored** to a solid support and containing first and second unsaturated C-C bonds, with a RCM catalyst, to yield a conformationally restricted peptide or amino acid; and (b) cleaving the conformationally restricted peptide or amino acid from the solid support.

USE - Conformationally restricted peptides, amino acids and **peptidomimetics** are important, e.g., in drug design and development, as cell adhesion molecules, and as inhibitors of platelet aggregation.

ADVANTAGE - The process allows synthesis of cyclic stabilised **peptidomimetics** in a simple and generalisable fashion. It allows synthesis of **peptidomimetics** that include cyclic moieties that are stabilised by carbon-carbon bond cross-**links**. It also allows introduction of a cyclic moiety into a peptide without requiring the synthesis of the complete cross-**link** prior to its introduction into the peptide.
Dwg.0/0

L26 ANSWER 16 OF 18 SCISEARCH COPYRIGHT 2002 ISI (R)
ACCESSION NUMBER: 97:455613 SCISEARCH
THE GENUINE ARTICLE: XD601
TITLE: A retro-inverso analog mimicks the cognate peptide epitope of a CD4(+) T cell clone
AUTHOR: Bartnes K (Reprint); Hannestad K; Guichard G; Briand J P
CORPORATE SOURCE: UNIV TROMSO, SCH MED, INST MED BIOL, DEPT IMMUNOL, N-9037 TROMSO, NORWAY (Reprint); INST BIOL MOL & CELLULAIRE, UPR 9021 CNRS, F-67084 STRASBOURG, FRANCE
COUNTRY OF AUTHOR: NORWAY; FRANCE
SOURCE: EUROPEAN JOURNAL OF IMMUNOLOGY, (JUN 1997) Vol. 27, No. 6, pp. 1387-1391.
Publisher: VCH PUBLISHERS INC, 303 NW 12TH AVE, DEERFIELD BEACH, FL 33442-1788.
ISSN: 0014-2980.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English

REFERENCE COUNT: 29

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Synthetic analogs of peptide epitopes may activate specific T helper cells, antagonize their antigen receptors, or block recognition by competing for major histocompatibility complex (MHC) class II binding sites. Rationally designed peptides may therefore prove useful as vaccines and for treatment of autoimmune diseases and allergies mediated by CD4(+) T cells. However, their susceptibility to proteolytic degradation limits the applicability of conventional peptides in vivo. By contrast, retro-inverso analogs, in which a native sequence is substituted with D-amino acids **linked** with a reversed backbone, resist proteolysis and still maintain the side chain topology of the corresponding natural peptide. We report here that an end group-modified retro-inverso analog of the IgG2a(b) heavy chain allopeptide determinant gamma 2a(b) 435-447 was recognized by an I-A(d)-restricted, gamma 2a(b) 435-447-reactive T cell clone. The pseudopeptide elicited near-maximal interleukin-2 responses, although 300-fold higher concentrations were needed than the native determinant. The weaker antigenicity of the retro-inverso analog could be fully accounted for by an impaired I-A(d) binding capacity, which might reflect reduced ability of the distorted main chain to form hydrogen bonds with I-A(d) Glycine substitution at the residue corresponding to the first primary **anchor** (P1) of the native peptide abrogated I-A(d) binding and antigenicity of the retro-inverso analog. Thus, the pseudopeptide resembled the native determinant with respect to orientation in the class II binding site, configuration of the epitopic side chains, and the constraints that governed the interactions between a major **anchoring** side chain and I-A(d). In conclusion, proteolytically resistant compounds with predefined capacity to interact with MHC class II allelic products and T cell antigen receptors may be designed by retro-inverso modification of native determinants.

L26 ANSWER 17 OF 18 MEDLINE DUPLICATE 8

ACCESSION NUMBER: 97351512 MEDLINE

DOCUMENT NUMBER: 97351512 PubMed ID: 9207794

TITLE: Toward a functional analysis of the yeast genome through exhaustive two-hybrid screens.

COMMENT: Comment in: Nat Genet. 1997 Jul;16(3):216-7

AUTHOR: Fromont-Racine M; Rain J C; Legrain P

CORPORATE SOURCE: Laboratoire de Metabolisme des ARN, CNRS (URA 1300), Institut Pasteur, Paris, France.. plegrain@pasteur.fr

SOURCE: NATURE GENETICS, (1997 Jul) 16 (3) 277-82. Journal code: BRO; 9216904. ISSN: 1061-4036.

PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199707

ENTRY DATE: Entered STN: 19970812
Last Updated on STN: 19970812
Entered Medline: 19970729

AB The genome of the yeast Saccharomyces cerevisiae is now completely sequenced. Despite successful genetic work in recent years, 60% of yeast genes have no assigned function and half of those encode putative proteins without any homology with known proteins. Genetic analyses, such as suppressor or synthetic lethal screens, have

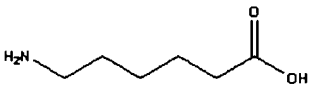
suggested many functional **links** between gene products, some of which have been confirmed by biochemical means. Altogether, these approaches have led to a fairly extensive knowledge of defined biochemical pathways. However, the integration of these pathways against the background of complexity in a living cell remains to be accomplished. The two-hybrid method applied to the yeast genome might allow the characterization to the network of interactions between yeast proteins, leading to a better understanding of cellular functions. Such an analysis has been performed for the bacteriophage T7 genome that encodes 55 proteins and for Drosophila cell cycle regulators. However, the currently available two-hybrid methodology is not suitable for a large-scale project without specific methodological improvements In particular, the exhaustivity and selectivity of the screens must first be greatly improved. We constructed a new yeast genomic library and developed a highly selective two-hybrid procedure adapted for exhaustive screens of the yeast genome. For each bait we selected a limited set of interacting preys that we classified in categories of distinct heuristic values. Taking into account this classification, new baits were chosen among preys and, in turn, used for second-round screens. Repeating this procedure several times led to the characterization of the network of interactions. Using known pre-mRNA splicing factors as initial baits, we were able to characterize new interactions between known splicing factors, identify new yeast splicing factors, including homologues of human SF1 and SAP49, and reveal novel potential functional **links** between cellular pathways. Using different cellular pathways as **anchor** points, this novel strategy allows us to envision the building of an interaction map of the yeast **proteome**. In addition, this two-hybrid strategy could be applied to other genomes and might help to resolve the human protein **linkage** map.

L26 ANSWER 18 OF 18 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 1998040677 MEDLINE
DOCUMENT NUMBER: 98040677 PubMed ID: 9373346
TITLE: Synthetic **peptide mimotope** of the CAMPATH-1 (CD52) antigen, a small glycosylphosphatidylinositol-**anchored** glycoprotein.
AUTHOR: Hale G
CORPORATE SOURCE: Department of Pathology, University of Cambridge, UK.
SOURCE: IMMUNOTECHNOLOGY, (1995 Dec) 1 (3-4) 175-87. Journal code: CR0; 9511979. ISSN: 1380-2933.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199801
ENTRY DATE: Entered STN: 19980122
Last Updated on STN: 19980122
Entered Medline: 19980105

AB BACKGROUND: CAMPATH-1 (CD52) antibodies are among the most powerful and specific lympholytic agents in humans and have numerous potential applications for human therapy. The CD52 antigen is a GPI-**anchored** glycoprotein with an exceptionally short peptide sequence of only 12 amino acids and a single, complex, N-**linked** oligosaccharide. Antibodies bind to the deglycosylated antigen and to a proteolytic fragment, but not to the

6-Aminohexanoic Acid [60-32-2]

Synonyms: xi-Aminocaproic acid; Epsilcapramine; Aminocaproic acid; amiocaproic acid; Amicar; 6-Amino-n-caproic Acid; 6-Aminohexanoic Acid; E-Aminocaproic Acid;



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Formula	$C_6H_{13}NO_2$	Molecular Weight	131.1742
CAS RN	60-32-2	Melting Point (°C)	210 - 212
ACX Number	X1006201-2	Boiling Point (°C)	
Density		Vapor Density	
Refractive Index		Vapor Pressure	
Evaporation Rate		Water Solubility	
Flash Point (°C)		EPA Code	
DOT Number		RTECS	MO6300000
Comments			

More information about the chemical is available in these categories:

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Biochemistry (2)

Biocatalysis/Biodegradation Database

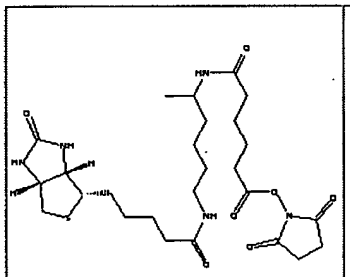
Information about this particular compound

Ligand Chemical Database for Enzyme Reactions

Information about this particular compound

Biotin-(AC5)2-OSu [89889-52-1]

Synonyms: 5-[5-(N-Succinimidyloxycarbonyl)pentylamido]hexyl D-biotinamide; Biotin-(AC5)2-OSu;



Formula	$C_{26}H_{41}N_5O_7S$	Molecular Weight	567.6992
CAS RN	89889-52-1	Melting Point (°C)	
ACX Number	X1016585-6	Boiling Point (°C)	
Density		Vapor Density	
Refractive Index		Vapor Pressure	
Evaporation Rate		Water Solubility	
Flash Point (°C)		EPA Code	
DOT Number		RTECS	
Comments	White or slightly yellow powder		

More information about the chemical is available in these categories:

MSDS (1)

MSDSs for Dojindo products

Information about this particular compound

- EZ-Link Biotinylation Kits
- EZ-Link NHS-Biotin
- EZ-Link NHS-Iminobiotin Trifluoroacetimide
- EZ-Link NHS-LC-Biotin
- EZ-Link NHS-LC-LC-Biotin
- EZ-Link NHS-PC-LC-Biotin
- EZ-Link NHS-PEO_4-Biotin
- EZ-Link PFP-Biotin
- EZ-Link Sulfo-NHS-Biotin
- EZ-Link Sulfo-NHS-LC-Biotin
- EZ-Link Sulfo-NHS-LC-LC-Biotin
- EZ-Link Sulfo-NHS-SS-Biotin
- EZ-Link TFP-PEO-Biotin

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Biotinylation Reagents - Amine Reactive Reagents

Reactive groups able to couple with amine-containing molecules are by far the most common functional groups present on modification reagents.

EZ-Link Biotinylation Kits

Contains everything you need for convenient, successful biotinylations.

EZ-Link NHS-Biotin

A water-insoluble reagent with a spacer arm of 13.5Å between the group that reacts with primary amines and the biotin moiety.

EZ-Link NHS-Iminobiotin Trifluoroacetimide

Features reversible binding to avidin preventing protein denaturation during purification. Binds to avidin at pH > 9.5 and dissociates at pH 4.0. Reacts with primary amines at pH 7-9 to form a stable amide bond.

EZ-Link NHS-LC-Biotin

Has an extended spacer arm to reduces steric hindrance. It forms a stable amide bond with primary amines at pH 7-9. The reagent must be dissolve in an organic solvent before use, and will penetrate cell membranes because there is no charged group.

EZ-Link NHS-LC-LC-Biotin

Longest spacer arm available to reduce steric hindrance when binding several biotinylated molecules to one avidin complex. It forms a stable amide bond with primary amines, and must be dissolve in organic solvent before use.

EZ-Link NHS-PC-LC-Biotin

Can be cleaved with light

EZ-Link NHS-PEO_4-Biotin

NHS-PEO_4-Biotin reaction is similar to that of other NHS esters and is water-soluble (up to a concentration of approximately 10 mg/ml), the biotinylation reaction can be carried out in the absence of organic solvents such as DMSO or DMF.

EZ-Link PFP-Biotin

EZ-Link Sulfo-NHS-Biotin

Applications:

- Biotinylation of rat IgE to study specific receptors on murine lymphocytes[1]
- Immunological assay for a post synaptic protein and receptor[2]
- B

EZ-Link Sulfo-NHS-LC-Biotin

Applications:

•Enhanced detection of DNA on nitrocellulose, eliminating the need for radioactive detection in Southern, Northern and dot blotting[1]

•Biotinylation of cell surface proteins

EZ-Link Sulfo-NHS-LC-LC-Biotin

EZ-Link Sulfo-NHS-SS-Biotin

INSTRUCTIONS

EZ-Link™ NHS-LC-Biotin

EZ-Link™ NHS-LC-LC-Biotin

PIERCE
3747 N. Meridian Road
P.O. Box 117
Rockford, IL 61105

21336 21343 0090w

Product Description

Number	Description
21336	**EZ-Link™ NHS-LC-Biotin,** *50 mg* Succinimidyl-6-(biotinamido) hexanoate
21343	**EZ-Link™ NHS-LC-LC-Biotin,** *50 mg* Succinimidyl-6′-(biotinamido)-6-hexanamido hexanoate

These products are supplied as dry powders, packaged under nitrogen.

Store at 4°C protected from moisture.

Allow product to warm completely to room temperature before opening the vial.

Introduction

Pierce has developed NHS-LC-Biotin and NHS-LC-LC-Biotin as unique reactive biotin analogs with extended spacer arms. The spacer arm imparted by NHS-LC-Biotin is approximately 22.4 Å in length and the spacer arm for NHS-LC-LC-Biotin is 30.5 Å. These long chain analogs reduce steric hindrances associated with binding four biotinylated molecules on one avidin. The reaction of NHS-LC-Biotin is shown in Figure 1.

Considerations for Use

Functionally, the chemistry of the NHS-LC-Biotin and NHS-LC-LC-Biotin reactions are similar to that of other NHS esters. We do not recommend preparing stock solutions of NHS-esters of biotin with the intent of long-term storage since hydrolysis can occur.

The reaction of primary amines with *N*-hydroxysuccinimide (NHS) esters is best at neutral pH values and above. This is due to the fact that the target for the NHS ester is the deprotonated form of the primary amine. The amine reacts with the NHS ester by nucleophilic attack and the by-product of the reaction, *N*-hydroxysuccinimide is released. Hydrolysis of the NHS ester is a major competing reaction in aqueous solution, and the rate of hydrolysis increases with increasing pH. Additionally, hydrolysis occurs more readily in dilute protein solutions.

Each protein may require its own set of conditions for optimal biotinylation.

Example Protocol for Biotinylating IgG with NHS Esters of Biotin

These instructions are modified from those found in Hnatowich et al.5

Note: These conditions resulted in a biotin modified immunoglobulin with a degree of insertion approaching 2 biotins per molecule of IgG. For monoclonal antibodies or other proteins, the reacting molar ratio of biotin to protein may have to be adjusted to insure sufficient biotinylation.

1. Dissolve 2 mg of IgG in 1 ml of 50 mM sodium bicarbonate buffer, pH 7.5-8.5, in a clean 16 x 125 mm test tube. Alternatively, other non-amine containing buffers such as PBS, pH 7-8.5 may be used if desired.
2. Immediately prior to use, dissolve 1 mg of NHS-Biotin (NHS-LC-Biotin or NHS-LC-LC-Biotin) in 1 ml DMF or DMSO. Add 75 µl of the dissolved NHS-Biotin to the test tube containing the IgG. The reaction can be scaled up for 20 mg IgG/1 ml by adding 0.4-0.7 mg of NHS-Biotin dissolved in DMF or DMSO (to avoid damaging the protein, do not exceed 10-20% organic solvent in the final reaction volume).
3. Place the test tube on ice and incubate for 2 hours.
4. To remove unreacted biotin, centrifuge the product at 1000 x g for 15-30 minutes using a microconcentrator. After centrifuging, dilute the sample in 0.1 M sodium phosphate, pH 7.0 or desired buffer. Repeat this process two more times. The protein concentration can be determined by A_{280}.

   Note: Dialysis or gel filtration can also be used to remove the unreacted NHS-Biotin.
5. Store biotinylated protein at 4°C in 0.1% sodium azide until ready for use. Sodium azide should be removed via dialysis or gel filtration when horseradish peroxidase is used as the enzyme for detection.

Determination of Biotin Incorporation

As mentioned previously, biotinylation with NHS-LC-Biotin or NHS-LC-LC-Biotin is a straightforward and simple procedure, especially for polyclonal antibodies and other proteins. It is, however seen that the degree of biotinylation is often important, and that this degree of biotinylation varies according to the exact parameters of the biotinylation reaction, including protein concentration, NHS-Biotin concentration, pH, time, etc.

It has been found that both too little biotinylation and too extensive biotinylation may be disadvantageous to a particular application. For scaling up and other investigative purposes, it is imperative that the biotin incorporation be determined. We suggest that it is of benefit to generally determine the biotin incorporation by the HABA assay for biotinylations in general.

The method is based on the finding that the dye HABA, (2-(4´-hydroxyazobenzene)-benzoic acid) will bind to avidin, yielding an absorption at 500 nm. This binding can be displaced with biotinylated protein or free biotin, allowing quantitation of biotin or the level of biotin incorporation. The protocol for this assay can be found in the literature and is included with the purchase of HABA (Prod. No. 28010).

To perform the assay you will need the HABA (Prod. No. 28010), as well as avidin (Prod. No. 21121) and PBS (Prod. No. 28372).

References

1. Green, N.M. (1975). Avidin. In: *Adv. in Protein Chemistry,* Academic Press, New York, **29,** 85-133.
2. Green, N.M., *et al.* (1971). The use of bifunctional biotinyl compounds to determine the arrangement of subunits in avidin. *Biochem. J.* **125,** 781-791.
3. Gretch, D.R., Suter, M. and Stinski, M.F. (1987). The use of biotinylated monoclonal antibodies and streptavidin affinity chromatography to isolate herpes virus hydrophobic proteins or glycoproteins. *Anal. Biochem.* **163,** 270-277.
4. Suter, M. and Butler, J.D. (1986). The immunochemistry of sandwich Elisas. II. A novel system prevents the denaturation of capture antibodies. *Immunology Letters* **13,** 313-316.
5. Hnatowich, D.J., Virzi, F. and Rusckowski, M. (1987) Investigations of avidin and biotin for imaging applications. *J. Nucl. Med. 28,* 1294-1302.
6. Leary, J.J. *et al.* (1983). Rapid and sensitive colorimetric method for visualizing biotin-labeled DNA probes hybridized to DNA or RNA immobilized on nitrocellulose: Bio-blots. *Proc. Natl. Acad. Sci. U.S.A.* **80,** 4045-4049.
7. Green, N.M. (1965). A spectrophotometric assay for avidin and biotin based on binding of dyes by avidin. *Biochem. J.* **94,** 23c-24c.

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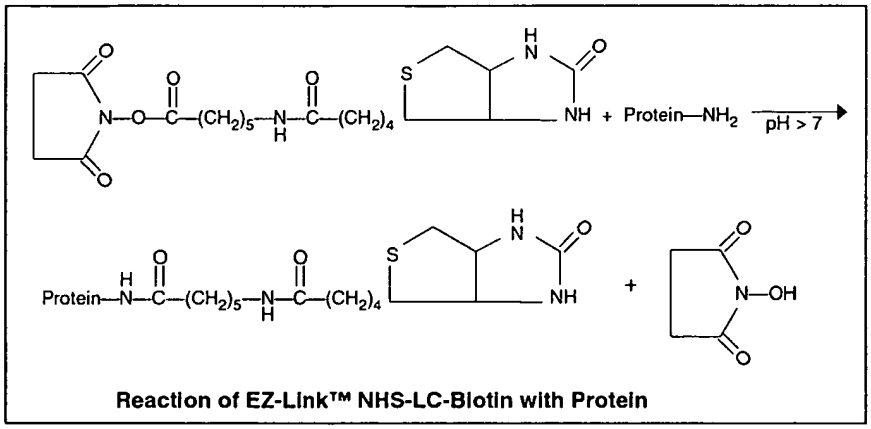
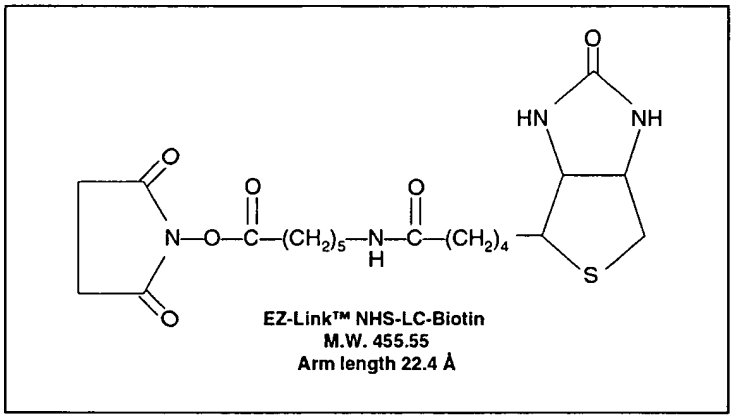
Figure 1.



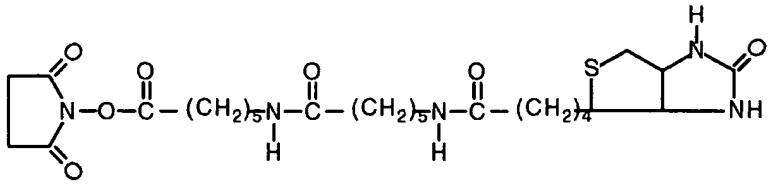
Reaction of EZ-Link™ NHS-LC-Biotin with Protein

Figure 2.



EZ-Link™ NHS-LC-Biotin
M.W. 455.55
Arm length 22.4 Å

Figure 3.



EZ-Link™ NHS-LC-LC-Biotin
M.W. 567.7
Arm Length 30.5 Å

Uptima

FT-UP52117

NHS-lc-Biotin, NHS-Biotin, & sulfonated forms

Specifications

	UP39044A, 100mg UP39044B, 50mg
Name :	N-Hydroxysuccinimido-Biotin (**NHS-Biotin**)
Formula :	$C_4H_4O_2N$-O-CO-$(CH_2)_4$-$C_5SN_2OH_7$, M.W.=341.38
	UP52117A, 100mg UP52117B, 50mg
Name :	Sulfosuccinimidyl-6-biotin (**sNHS-Biotin**))
Formula :	NaO_3S-$C_4H_3O_2N$-O-CO-$(CH_2)_4$-$C_5SN_2OH_7$, M.W.=443.42
	UP85262A, 100mg UP85262B, 50mg
Name :	Succinimidyl- -(biotinamido)hexanoate-biotin (**NHS-lc-Biotin**)
Formula :	$C_4H_4O_2N$-O-CO-$(CH_2)_5$NH-CO-$(CH_2)_4$-$C_5SN_2OH_7$, M.W.=455.55
	UP54398A, 100mg UP54398B, 50mg
Name :	Sulfosuccinimidyl-6-(biotinamido)hexanoate-biotin (**sNHS-lc-Biotin**)
Formula :	NaO_3S-$C_4H_3O_2N$-O-CO-$(CH_2)_5$NH-CO-$(CH_2)_4$-$C_5SN_2OH_7$, M.W.=556.58
	UP29847A, 50mg UP29847B, 100mg
Nom :	6-((+)-Biotinamidocaproylamido)caproic acid N-hydroxysuccinimide ester (**NHS-lc-lc-Biotin**)
Formula :	$C_{26}H_{41}N_5SO_7$, M.W.=657.7
	UP37924A, 50mg
Nom :	(s**NHS-lc-lc-Biotin**)
Formula :	$C_{26}H_{40}N_5S_2O_{10}$, M.W.=669.75
Storage :	–20°C

General Considerations

The biotin is a vitamin widely used in biotechnology for its propriety to bind with extremely high affinity to avidin ($Ka=10^{-15}\ M^{-1}$) and streptavidin ($Ka=10^{-14}\ M^{-1}$). This interaction hapten-protein resists effectively to drastic physico-chemical conditions, allowing various immuno-technologies. The biotin can be conjugated through several chemical reactions to molecules of interest, notably proteins, without modifying the biological activity of the molecule, thanks to it's low molecular weight and steric volume. It is easily detected thanks to labelled (strept)avidins, thus biotin represents a priviligied label for antibodies and proteins involved in hapten-ligand interactions.

Interchim offers biotins activated by the succinimidyl ester, easy to use in labs, rendering these 'NHS-biotins' the typical and commonly used "home-made labelling" reagent.

Scientific and technical Information

- The chemical group N-hydroxysuccinimydyl (NHS) reacts in aquous phase on primary (–NH2) and secondary amines (=NH) (in fact on its deprotonated form), optimally at neutral pH or higher : amines present in proteins (Lys aminoacid) and in a lower proportion on NH2 located in terminal peptidic chains. The reaction competes with hydrolysis, that increases with pH, and with the high dilutions of the molecule that should be biotinylated.

- The sulfonyl moeity (NaSO3) introduces a hydrophilic group that allows the product not to cross biological membrans. This is particularly useful to label, in situ on cells, proteins presented outside membrans, and if one wants to avoid the biotinylation of intracellular proteins that may affect further analysis, or may affect the cell metabolism. An other interest of the sulfonyl group is to

permit the solubilisation of the product directly in aquous buffers, up to 10mM, avoiding the use of organic solvants like DMSO or DMF, that are possibly nocive to cells or applications.

- The hexanoate link (LC= 'long chain') permits to introduce a spacer arm of 22.4 Angstroms between the labelled molecule and the biotin. This increases the availability of biotin to bind to (strept)avidin, and finally increases the sensibility of detection. However, longer spacer dont always give the best result !

Use

Here are some protocoles. A setting may be needed to optimize the biotinylation level for each protein, the quality of cell label, or any application result.

- **NHS-Biotins** can be dissolved in DMSO. Uptima recommends not to store the stock solution, because the product is readily subject to hydrolysis. A limited storage may be obtained when using high quality anhydrous DMSO under argon or nitrogen gaz at –20°C. **Biotinylated sulfonated** agents (sNHS-Biotin, sNHS-lc-Biotin et sNHS-lc-lc-Biotin) can be dissolved directly in distilled water (this solution should be used immediately), or added directly to the proteic solution (buffer of biotinylation).
- The possible conditions of the esterification reaction are various. The biotinylation is usually realised in a neutral buffer, like PBS (NaCl 150mM, phosphate 20mM, pH7.4), or carbonate (but not in Tris buffers).
- It is usually necessary to remove by-products after labelling (excess of NHS-biotin, free biotin and NHS).

Protocol 1 : biotinylation of an antibody

This simple and quick standard protocole biotinylates polyclonal and monoclonal purified antibodies for immunodetection applications. It suits also most proteins and peptides if a similar concentration weight of NHS-Biotin / weight of protein or peptide is observed.

1- Prepare the antibody at 5mg/ml in PBS (NaCl 150mM, Phosphate 20mM, pH7.5).
This can be done by dissolving the lyophilized antibody, or by dilution. Check if it contains no other proteins or Tris or other interfering agents. If not, purify, dialyse, or gelfiltrate in the righ buffer. Other concentrations can be realised, but the coupling ratio should be slighly increased if the antibody is more diluted.
2- Prepare a NHS-biotin solution at 20mM in anhydrous DMSO.
3- Add 15µL of the solution of NHS-biotin to the antibody (1ml).
* Rem: Sulfonated biotinylation agents can be dissolved in water or the right quantity directly added to the protein solution.
Incuber 1H at room temperature.
4- Dialyses the antibody against PBS+NaN3 0.01% (Use CelluSep membranes). The biotinylated antibody can be diluted to 1mg/ml with 0.1% NaN3 and 20% of glycerol for storage at–20°C or +4°C.

The level of biotinylation is in the range of 1-3 biotins per IgG. This can be estimated by quantification of biotins (or for high biotinylation rates, by a differential quantitation of amines).

The conditions of biotinylation, ratio of NHS-biotin / molecule, temperature, duration of incubation, procedure of purification, can be adapted depending on quantity, volume or concentration of antibody, desired biotinylation degree, or on the susceptibility of the antibody (notably monoclonals can be partially inactivated). The optimization of the biotinylation level is classically determined by incubating the antibody with some ratios NHS-biotin / protein below and above the standard ratio, then by testing the biotinylated antibodies directly in the application to select the best result.

Protocole 2 : biotinylation of a peptide

This simple and rapid standard protocol, , biotinylates peptides preferentially on Lys residues, but a biotinylation of the terminal NH2 is possible with higher ratios of sNHS-biotin / peptide (*):

1- Prepare the peptide at 5mM in PBS (NaCl 150mM, Phosphate 20mM, pH7.5), usually by dissolving the lyophilised peptide. Do not use Tris based buffers.
2- Prepare a solution of NHS-biotin at 50mM in anhydrous DMSO *.
3- Add 200-400µl of NHS-biotin in 1 ml of peptide solution at 5mM

Rem : add up to 4 other times 200µl at 15min intervals if a complete biotinylation is wished, or if the peptide presents a terminal NH2 alone (more difficult to biotinylate).

* **Rem**: Sulfonated biotinylation agents can be dissolved in water or the right quantity directly added to the protein solution.

4- Purify the peptide by reverse phase or any other suitable technique (ion exchange, gelfiltration....)

Protocole 3 : *in situ* biotinylation of cell's proteins

This protocol is designed to biotinylate blood cells.

- Use sulfoned biotin to label proteins presented outside membrans
- Use non sulfoned biotin to intrinsic label

1- Wash 4 times the cells with cold ** PBS (NaCl 150mM, Phosphate 20mM, pH7.5). Prepare a suspension at 10^6-10^8 cellules par ml.
2- Prepare a solution of NHS-biotin at 50mM in anhydrous DMSO *
3- Add 1- 100µM of sNHS-biotin (the concentration depends on the desireddetecting signal, of the cell resistance...)

* **Rem**: Sulfonated biotinylation agents can be dissolved in water or the right quantity directly added to the cell suspension.

4- Incubate 30min at +4°C or at room temperature. Wash 2 times the cells with cold PBS à +4°C

** depending on the nature of cells, operating washes and incubations at 4°C prevents cell damages.

The biotinylated cells can be followed up after growth in vitro, or survival in vivo (determination of the cell's life-span, distribution on organism, localisation of degradation in tissus...). Analysis may includes flow cytometry (quantitation of labelled cells, level of biotinylation), and western-blotting (qualitative analysis of labeled proteins) with labelled streptavidins. After lysis and extraction with detergents, biotinylated membrane components can be purified by affinity with monomeric avidin (#UP29337A).

Other information

The level of biotinylation can be estimated by dosage of biotin after, or not, digestion of proteins by the pronase (dosage with HABA , or ELISA inhibition)

For use in vitro only, not for diagnostic.

For any information, please contat Uptima, or your local distributor.
213 av.J.F.kennedy, 03103 Montlucon, fax :04 70 03 82 60, hotline Interbiotech : 04 70 03 76 06

revised : B03VS

Biochemistry of Proteins

BIOTINYLATION

Uptima

General information

Labeling reagents are used to tag or modify peptides, proteins (especially antibodies, lectins...) and other molecules carrying similar chemical groups (for example COOH and NH2 found in some glycosylated lipids), purified or present in mixtures, on cells or outside, or lastly immobilized onto gels or surfaces.

Biotin, a very popular and convenient label, very sensitive and versatile

Biotin is very easy to attach to most biomolecules, and then to detect. This 244Da vitamin binds with one of the highest affinity amongst biomolecules, to both avidin (Ka=10-15 M-1) and streptavidin (Ka=10-14 M-1).
This is taken to advantage in detection and separation techniques :

- The tremendous affinity of biotin allows to reach sensitivities near to radioactivity in some detection systems! This is a convenient tool:
  - to immobilize molecules for the purification or detection (indirect coating of biotinylated Ab).
  - to detect a specific probe conjugated to biotin or avidin, and for amplification systems (avidin/biotin complexes labeled by enzymes or fluorophores).
- The very strong association allows to purify biotinylated molecules, cells or particules, to immobilized-(strept)avidin or -biotin supports. The elution of bound molecules must be performed often with stringent agents like 4M urea (UP031903) or 6M Guanidine (UP018380).

Related Reagents: Immobilized Avidins and Biotins

Related Reagents: Labeled Avidins

The versatility of biotin/(strept)avidin systems is well appreciated.

Selection guide to protein biotin tools

Cat.#	Product		Target-1-	Spacer-2-	Cleav.-3-	Mb perm.-4-	Applications
UP39044	NHS-Biotin	TS	Amines	13.5	no	no	proteins, peptides
UP52117	sNHS-Biotin	TS	Amines	13.5	no	yes	
UP85262	NHS-lc-Biotin	TS	Amines	22.4	no	no	
UP54398	sNHS-lc-Biotin	TS	Amines	22.4	no	yes	
UP29847	sNHS-lc-lc-Biotin	TS	Amines	30.5	no	no	
UP53031	sNHS-SS-Biotin	TS	Amines	24.3	yes	yes	
UP35329	NHS-imino-Biotin		Amines		no	yes	
UP48198	Maleimido-Biotin	TS	Thiols		no	no	proteins, peptides
UP99687	Maleimido-lc-Biocytin	TS	Thiols		no	yes	
UP87284	Maleimide-PEO3-Biotin	TS	Thiols	29.1	no	yes	
UP55533	Iodoacetyl-lc-Biotin	TS	Thiols	27.1	no	yes	
UP83035	HPDP-Biotin	TS	Thiols	29.1	yes	yes	
UP27443	BMCC-Biotin		Thiols	32.6	no	yes	
UP36466	Hydrazide-Biotin	TS	Carbohydrate	4 at.	no	yes	Carbohydrates
UP78631	Hydrazide-lc-Biotin	TS	Carbohydrate	12 at.	no	yes	
UP84961	BAPA (and other biotins)	TS	Carboxyls	5 at.	no	yes	DNA, RNA
UPR0756	AMCH-biotin	TS	Aldehyde		no	yes	DNA classic sites
UPL7784	Psoralen PEO4-biotin	TS	Thymine/pyrimidine		no	yes	nucleic acids, proteins

Main biochemical features of the labeling agents

-1-Targeted chemical group

Main available chemical groups present in biomolecules are amines and carboxyls. Reactive amines (NH2) are often targetted on proteins. Sulfhydryls (SH) or aldehydes (CHO) are present at defined sites or introduced (see SATA reagent) into proteins, peptides, glycoproteins, nucleic acids or lipids.

Once you have choosen the right target, seek the best chemical reactivity for your application.

-2- Spacer arm

The spacer arm separates the reactive group from the label.

- The length of the arm should be considered for the stereoscopic availability of the label. Longer spacer is thought to improve the sensitivity of detection, or capture, especially with the big streptavidin molecule (65kDa), and with biotinylated molecules that are immobilized, or present on cells.
- The nature of the spacer should be to considered for other various purposes (flexibility, constrained form, iodinatable or cleavable site).

-

3- Cleavability

Attaching a label to a biomolecule is useful, but some applications require the label to be removed. An efficient way consists to cleave the spacer arm under controlled conditions. Dissulfide link provides a convenient cleavable spacers, because it can be broken by reducing agents like DTT (UP28425) or TCEP (UP24221).

-4- Membrane permeability / water solubility

The labeling reagents have different hydrophobic patterns, that may affect biological applications. For example, lipophilic reagents cross the biological membranes and label both outside and inside biomolecules of cells. At the opposite, polar reagents should be used if only the outside exposed proteins should be labeled on cells.

Uptima provides for that purpose high quality sulfo derivatives. An additional advantage is that sulfonated reagents can be added directly in aqueous buffer, eliminating the need of organic solvent that may be undesired or toxic (DMSO).

-5- Detection

Besides antibiotin antibodies, the detection system of choice for biotin is Streptavidin or Avidin (better than antibiotin antibodies because of higher affinity).

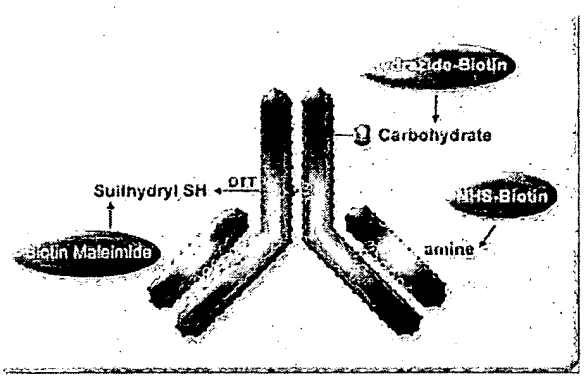
Biotinylation of amines

Amine biotinylation was popularized with the succinimidyl esters of biotin. Uptima recommands the NHS-lc-Biotin or NHS-lc-lc-Biotin that allows generally increased detection levels.

Non sulfo agents (UP85262) may be prefered for soluble proteins if organic solvents are acceptable, because hydrolysis can be better controlled, beside cost reasons. They allow also intracellular labeling.

Sulfosuccinimidyl esters of biotin (UP54398, UP29847) are extensively used as topological probes to label proteins in the outer membrane surface (Marmorstein 1998) , or when the use of organic solvents should be avoided.

SulfoNHS-Biotins have been used for example to differentiate membranes with different polarity (Kroepf 2001, Marmorstein 1996) , and internalization of membrane proteins and cell-surface targeting of proteins (Ray 1999).



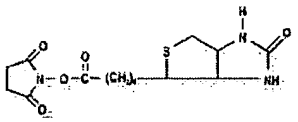
NHS-Biotin

UP39044A	100mg
UP39044B	50mg

A classic for biotinylation on amines

- Reacts with primary amines at pH7-9
- Short spacer
- Ideal for antibody and DNA biotinylation
- Economic

N-hydroxySuccinimido-Biotin
MW 341.4
CAS [35013-72-0]



Technical Sheet

Applications / Literature
Immunoassays
Receptor studies
Nucleotide labeling (Bergtstrom 1990)
Ngo (1982), Gilliam (1968;1986), Wojchowski (1986), Duhamel (1985), Chichibu (1989), Nakayama (1990), Flanders (1982)

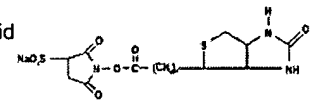
SulfoNHS-Biotin

UP52117A	100mg
UP52117B	50mg

Colorimetric quantitation of biotin

- Soluble directly in aqueous buffer (no need DMSO)
- Do not cross biological membranes / label inside cells

Sulfo-Succinimido-Biotin Acid
MW 443.4



CAS[119616-38-5]

Technical Sheet

Applications / Literature
Cell membrane studies
Lee (1984), LaRochelle (1986),
Altin(1995), Bubb (1991),
LeBivic (1989),
Vernachio (1989),
Yeh (1996), Ingalls (1986)

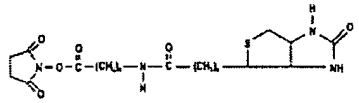
NHS-lc-Biotin

UP85262A 100mg
UP85262B 50mg

Extended spacer arm than NHS-Biotin for improved availability of biotin

- Reacts with primary amines at pH7-9
- Extended spacer
- Ideal for antibody and DNA biotinylation
- Economic

Succinimidyl-6-(biotinamido)-hexanoate
MW 455
CAS [72040-63-2]



Technical Sheet

Applications / Literature
Solid support labeling
Hydrophobic molecules labeling
Receptor studies
In Situ labelling
Immunoassays: immunoglobulins
Leary (1983), Schuberth (1996), Gretch (1987), Sorenson (1996), Foxall (1995), Hnatowich (1997), Kerstens (1995), Wheeler (1996), Green (1971), Suter (1986), Hofmann (1982), Leary (1983), Costella (1979)

SulfoNHS-lc-lc-Biotin

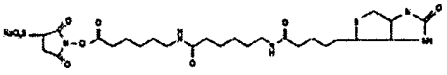
UP29847A 50mg
UP29847B 100mg

The longest spacer version of the NHS-x-Biotins

- 14 atom extended spacer!
- Water soluble, do not cross biological membranes

6-Biotinamidocaproylamido)caproic acid N-hydroxysuccinimide ester
MW 567.7
CAS [89889-52-1]

Technical Sheet



Applications / Literature
Special applications were NHS-lc-Biotin gives low sensitivity of detection when buried labeling
sites are suspected.
Almenoff (1993), hyman (1991)

SulfoNHS-lc-Biotin

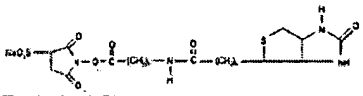
UP54398A 100mg
UP54398B 50mg

The water soluble analog

- Soluble directly in aqueous buffer (no need DMSO)
- Do not cross biological membranes / label inside cells

Sulfo Succinimidyl-6-(biotinamido)-hexanoate
MW 556.6

CAS[127062-22-0]



Technical Sheet

Applications / Literature
Cell membrane studies
In vivo targetting
Suter (1986), Hnatowich (1987)

NHS-imino-Biotin

UP35329A 100mg
UP35329B 50mg

Perfect for further biotin-affinity purification (and immunoprecipitation)

- Lower affinity for (strept)avidins products than normal biotin
- Binds at alcaline pH
- Dissociates at pH4

N-HydroxySuccinmide immino-Biotin
MW 340.4

Applications / Literature
Recovery of biotinylated molecules after biotin-affinity separation from complex mixtures: plasmatic proteins bound to membrane cells, in-vivo biotinylated proteins...
Suton (1984), Yamamoto (1984) , Orr (1981)

SulfoNHS-SS-Biotin

UP53031A 100mg
UP53031B 50mg

The reversible biotinylation agent

- Soluble directly in aqueous buffer (no need DMSO)
- Reacts with primary amines at pH7-9
- Extented spacer and cleavable by reducing agents
- Do not cross biological membranes / label inside cells

Sulfo-Succinimidyl-2-(biotinamido)ethyl-1,3-dithiopropionate
MW 606.7
Technical Sheet

Applications / Literature
Conjugates for in-vivo release
Recovery of non biotinylated molecules after biotin affinity purification Shimkus (1985), Duhamel (1985), Gottardi (1995), Soukup (1995), Mouton (1982), Gretch (1987),
Lomont (1976)

Related products
see reducing agents DTT #UP28425, TCEP #UP242214

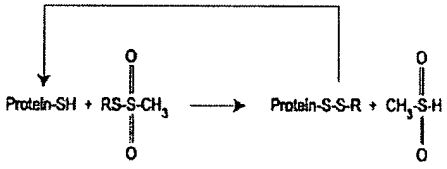
Related products

MTSE-Biotin NEW

UPR5752 10mg

2-((biotinoyl)amino)ethyl MethaneThioSulfonate
MW 381.52
$C_{13}H_{23}N_3O_4S_3$

This reagent would fit inside a cylinder about 0.6nm in diameter and 1nm in length (Akabas 1992). Half-life (pH7.0, 20°C): ca 12 min, Half-life (pH6.0, 20°C): ca 92 min, Half-life (pH7.0, 4°C): ca 116 min (Karlin 1998)



Fluorescent Labeling

FITC

UP017396 100mg
UP01739A 1g

Very popular fluorescent dye

- Reacts with amines but also other chemical groups
- Purity > 80%
- λ exc/em : 495/520 nm

Fluorescein isothiocyanate
MW 389.4
CAS : 3326-32-7
$C_{21}H_{11}NO_5S$

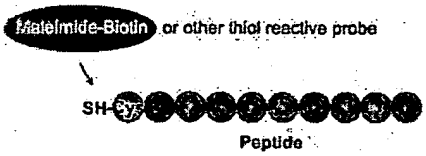
Buffers
Desalting products

Biotinylation of Thiols

Sulfhydryl biotinylation is useful for the detection or modification of SH containing sites or study SH dependant structures. It works also when SH are introduced :

- into proteins (with SATA reagent UP84235)
- into peptides : the introduction of Cys residue during the synthesis at the terminus of the aa chain is now a popular technology to get a site specific and oriented biotinylation
- into nucleotides, that are thiol-modified for similar goals

Uptima recommands for classic biotinylation applications the maleimido-biotin (UP48198) or its more soluble maleimido-lc-Biocytin (UP99687), because of their quick, quasi stoechiometric and very specific reactivity.



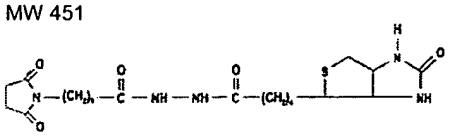
Maleimido-Biotin

UP48198A 100mg

Biotinylates proteins on specific site

- Maleimide reacts specifically with free sulfhydryls at pH6.5-7.5
- Allows more defined labeling of proteins
- Avoids undesired amine modification on proteins

Maleimido-biotin
MW 451



Technical Sheet

Applications / Literature
Biotinylation of (Fab')2 Ig fragments
Biotinylation of SH of enzyme catalytic site

Related Products
SATA #UP84235A, Iminothiolane #UP42425A

BMCC-Biotin

UP27443A 100mg
UP27443B 50mg

An original alternative

- Reacts with free -SH at pH5-7 giving a thioether bond
- More specific and works at lower pH than iodoacetyl
- Extended 32.6Å spacer arm
- Iodinatable

4,'4-MaleimidoMethyl)cyclohexane Carboxyamido)-butane
MW 533.7

Biocytin-lc-maleimide

UP99687A 25mg

A long spacer analog of Maleimido-Biotin

- Maleimide reacts specifically with free sulfhydryls at pH6.5-7.5
- Biocytin binds to avidin with lower affinity than biotin does

N-Biotinyl-N-(3-MaleimidoPropionyl)-L-Lysine
MW 523.6

CAS[102849-12-7]

Technical Sheet

Applications / Literature
Protein blotting and immunoassays: detection of SH groups on dot blot in the femto range
Protein immobilization
Cytochemical studies
Roffman (1986), Bayer (1987)

Maleimide-PEO3-Biotin

UP87284A 50mg

An extended spacer analog of Maleimido-Biotin

- Maleimide reacts specifically with free sulfhydryls at pH6.5-7.5
- Water soluble
- 29.1 Å long spacer

Biotinyl-3-maleimidopropionamidyl-3,6-dioxaoctanediamine
MW 525.62

$C_{23}H_{35}N_5SO_7$

Technical Sheet

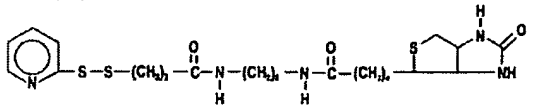
HPDP-Biotin

UP83035A 100mg
UP83035B 50mg

A reversible thio-biotinylation reagent

- Reacts with free -SH at pH7-9 giving a stable -S-S- bond
- Relased pyridine-2-thiol, measured at 343 nm, monitors the reaction
- Extended 29.2Å spacer, and cleavable by reducing agents

N-(6-(Biotinamido)Hexyl)-3'-(2'-Pyridylthio)propionate
MW 510.4



Technical Sheet

Applications / Literature
Functional and structural studies of Cys-containing proteins (receptors, enzymes...)
Immunoprecipitation with immobilized avidin then purification
Ghebrehiwet (1988)

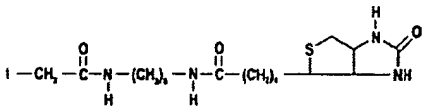
Iodoacetyl-lc-Biotin

UP55533A 100mg
UP55533B 50mg

A classic

- Reacts with free -SH at pH 7.5-8.5 giving a thioether bond
- Extended 27.1 Å spacer

N-iodoacetyl-N-biotinylhexylenediamine
MW 510.4



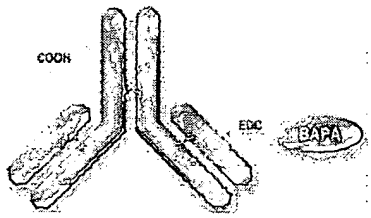
Technical Sheet

Applications / Literature
Functional and structural studies of Cys-containing proteins (receptors, enzymes...)
Suton (1984)

Biotinylation of Aldehydes and Carboxyls (Carbohydrates Nucleic acids)

Aldehydes generated by periodate oxidation of viccinal diols, and carboxyls activated by EDAC (UP52005), can be biotinylated using biotin-hydrazides (UP78631).

Biotinylation occurs in glycoproteins, polysaccharides and sialic acids, steroids, glycolipids, LDL, and nucleic acids.



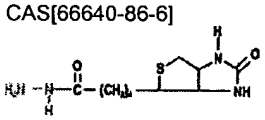
Hydrazide-Biotin

UP36466A 100mg
UP36466B 50mg

A classical carbohydrate reactive biotinylation reagent

- Reacts with aldehydes at pH4-6 giving a stable CH=N-NH- bound
- Allows the labeling of glycoproteins through their glycan
- Reacts also with carboxyls in presence of EDAC

Biotinyl-hydrazide
MW 258.3
CAS[66640-86-6]



Technical Sheet

Applications / Literature
Biotinylation of Immunoglobulins in the Fc region for better orientation / activity
Biotinylation of nucleic acids thought sugar ring
Functionnal and structural studies of glycosylation biomolecules
Detection of glycosylated proteins in membrans
O'Shannessy (1984), Wade (1985), Rosenberg (1986), Reisfield (1987), Heitzmann (1974), Lisanti (1989)

Hydrazide-lc-Biotin

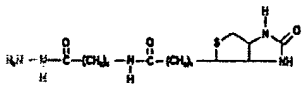
UP78631A 100mg
UP78631B 50mg

A long spacer analog of Maleimido-Biotin

- Reacts with aldehydes at pH4-6 giving stable CH=N-NH- bound
- Extended spacer arm improves greatly biotin availability

Biotinyl-hydrazide
MW 371.5

CAS[109276-34-8]



Technical Sheet

Applications / Literature
Roffman (1986), Reisfield (1987), Bayer (1988), O'Shannessy (1987), Rosenberg M (1986), Spiegel (1981)

AMCH-Biotin NEW

UPR0756A 10mg

Aldehyde reactive biotin specific for a basic site of DNA

- Aldehyde-specific
- Labeling and detection of the abasic sites (AP sites, depurine/depyrimidine sites) of DNA

N'-Aminoxymethylcarbonylhydrazino D-biotin
MW 341.40
$C_{12}H_{21}N_5O_4S$
CAS[139585-03-8]

It has been reported that less than one abasic site in $1x10^4$ nucleotides of DNA can be detected.

Technical Sheet

Hydrazide-PEO4-Biotin

Inquire

38Å spacer

Psoralen-PEO4-Biotin NEW

UPL7784A 10mg

Great to label in one step all nucleic acids, and notably dsDNA, but also RNA, cDNA, PCR products, oligonucleotides, and even proteins and peptides!

MW 688.79
$C_{33}H_{44}N_4O_{10}S$

Psoralen intercalates between thymine and other pyrimidine containing bases. DNA/RNA probe modification does not interfere with hybridization. Labeling occurs by photolysis at 350 nm, 10-30min. PEO spacer confers excellent water solubility.

Technical Sheet

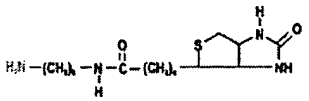
BAPA

UP84961A 50mg
UP84961B 10mg

A unique way to biotinylate proteins, DNA or sugars : through COOH !

- Binds covalently to carboxyls in the presence of EDC giving a peptidic bound
- Can be coupled to phosphate groups too
- Flexible 18.9Å spacer

5-(biotinamido)-pentylamine
MW 328.5



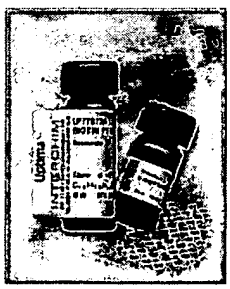
Technical Sheet

Applications / Literature
Protein structure and function studies

Related products
Other aminated biotins and EDC (UP52005)

Other Biotins

Building block for biotin derivatives synthesis
Amine-biotins can be used to label DNA and oses in presence of carbodiimides.
Also used for controls, inhibitions in immunoassays, elution during purifications with mon.avidin affinity supports (UP90968).



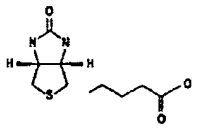
Biotin

UP10685D 200mg
UP10685E 1g

The basic building block for synthesis, of highest quality!

- High affinity for (strept)avidin products
- Biological activity (vitamin H)

Id-biotin DL
MW 244
CAS[5885-5]



Technical Sheet

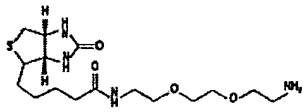
Inquire for Bulk quantities

Applications / Literature
Inhibition of biotinylated conjugates binding
Control in immunoassays
Saturation of biotin binding sites

Biotin-PEO3-Amine

UP77872A 100mg

MW 374.50
Spacer 20.4 Angstroms

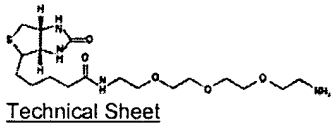


Used with carbodiimides (EDAC UP52005) to biotinylate carboxyls

Biotin-PEO4-Amine

UP91577A 100mg

MW 418.56
Spacer 22.9 Angstroms



Technical Sheet

Used with carbodiimides (EDAC UP52005) to biotinylate carboxyls

Biotin-Amino-Pentylamine

UP84961A 50mg
UP84961B 100mg

Technical Sheet

Applications:

- Colorimetric assays for site-carboxyl-containing enzymes
- Biotinylation of carboxyls with carbodiimides

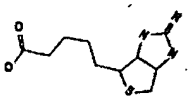
CelluSep: How to remove the excess of biotinylation agent ?

IminoBiotin

UP39375A 100mg

Lower affinity for (strep)avidins products than Biotin

2-iminobiotin, GuanidinoBiotin
MW 243.3



CAS[13395-35-2]

Technical Sheet

Applications / Literature
Heyney (1981), Orr (1991)

Biotin-PEO6-Biotin

UPQ7467A 50mg

MW 732.97

Water soluble

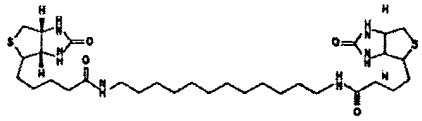
Used with carbodiimides (EDAC UP52005) to biotinylate carboxyls

Biotin-PEO12-Biotin

UPT5046A 50mg

MW 637.81

Spacer 43.4 Angstroms



Technical Sheet

Biotin dimer cross-links avidin molecules. Generates linear avidin oligomers.

Biotin-Agarose IminoBiotin-Agarose
Avidin-Agarose Monomeric Avidin-Agarose
Unique tools for the separation, purification, recovery of biotinylated molecules and (strept)avin conjugates !

BACK

213, avenue Kennedy - BP 1140 - 03103 Montluçon cedex - FRANCE
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TOP

Considered 8/27/02 mcs

synthetic peptide alone. OBJECTIVES: To characterise the antigenic epitope more precisely and to construct a synthetic analogue. Such an analogue would be useful for assay and purification of the therapeutic CAMPATH-1 antibodies as well as for studies of the antibody-antigen binding site. STUDY DESIGN: Collections of synthetic peptides based on the natural sequence were screened with a panel of CD52 antibodies. RESULTS AND CONCLUSION: A synthetic peptide composed of the natural C-terminal amino acids plus two additional residues was found to mimic the antigen with sufficient affinity to be useful for a variety of assays and for construction of an affinity matrix for antibody purification. Systematic mutation of this peptide enabled the definition of the critical residues for antibody binding, which will be of great help in building a model of the antibody-antigen interaction. **Peptide mimotopes** synthesised using a natural sequence as a starting point, rather than a completely random library, may be useful in many other similar circumstances.

[redacted]PLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, [redacted], JAPIO' ENTERED AT 11:51:12 ON 22 MAY 2002)

L27 152 S CHARYCH D?/AU — Author (s)
L28 49 S BEAUSOLEIL E?/AU
L29 488 S (ZUCKERMANN R? OR ZUCKERMAN R?)/AU
L30 2 S L27 AND L28 AND L29
L31 2 S L27 AND (L28 OR L29)
L32 9 S L28 AND L29
L33 678 S L27 OR L28 OR L29
L[redacted] 26 S L33 AND ?ARRAY?
[redacted] 31 S L30 OR L31 OR L32 OR L34
[redacted]CATES REMOVED)

L36 ANSWER 1 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
ACCESSION NUMBER: 2001:904732 CAPLUS
DOCUMENT NUMBER: 136:34316
TITLE: **Microarrays** for performing proteomic analyses
INVENTOR(S): **Charych, Deborah; Beausoleil, Eric; Zuckermann, Ronald N.**
PATENT ASSIGNEE(S): Chiron Corporation, USA
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001094946	A2	20011213	WO 2001-US18066	20010604

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,

TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2002055125 A1 20020509 US 2001-874091 20010604
PRIORITY APPLN. INFO.: US 2000-209711P P 20000605

AB Provided are peptidomimetic protein-binding **arrays**, their manuf., use, and application. The protein-binding **array** elements of the invention include a peptidomimetic segment linked to a solid support via a stable anchor. The invention contemplates peptidomimetic **array** element library synthesis, distribution, and spotting of **array** elements onto solid planar substrates, labeling of complex protein mixts., and the anal. of differential protein binding to the **array**. The invention also enables the enrichment or purifn., and subsequent sequencing or structural anal. of proteins that are identified as differential by the **array** screen. Kits including proteomic **microarrays** in accordance with the present invention are also provided.

L36 ANSWER 2 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 2
ACCESSION NUMBER: 2001:338865 CAPLUS
DOCUMENT NUMBER: 134:337940
TITLE: Biological sample component purification and differential display
INVENTOR(S): **Zuckermann, Ronald N.**; **Beausoleil, Eric**; Wachowicz, Matthew; Kothakota, Srinivas
PATENT ASSIGNEE(S): Chiron Corporation, USA
SOURCE: PCT Int. Appl., 63 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001033230	A2	20010510	WO 2000-US30110	20001101
WO 2001033230	A3	20020110		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1155327 A1 20011121 EP 2000-976796 20001101

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: US 1999-163110P P 19991102
US 1999-169160P P 19991206
WO 2000-US30110 W 20001101

AB Provided are affinity support materials having intermediate binding affinity for biol. samples. Among the materials provided by the present invention are hydrophilic solid supports composed of

hydrophilic ligands coupled to hydrophilic matrixes which are compatible with biol. samples, for example, a cell line, a biol. fluid such as blood, or a tissue cell lysate. The ligands may include affinity property groups and hydrophilic groups pendent from a backbone, and be configured to at least partially resolve components of a biol. sample. Affinity supports in accordance with the present invention may be used in a variety of techniques and apparatuses to achieve improved sepns. of complex biol. samples and thereby enhance the results of biol. sample component fractionations, enrichments, purifications, expression product detns. and comparisons, and other biol. sample processing techniques. In addn., the affinity supports may be included in kits useful in processing biol. samples.

L36 ANSWER 3 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 3
ACCESSION NUMBER: 2001:12731 CAPLUS
DOCUMENT NUMBER: 134:68420
TITLE: **Arrays** of biopolymeric binding agents and method for their production and use
INVENTOR(S): **Charych, Deborah**
PATENT ASSIGNEE(S): Chiron Corporation, USA
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001001142	A2	20010104	WO 2000-US16894	20000619
WO 2001001142	A3	20010830		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-141469P A2 19990629

AB **Arrays** of biopolymeric binding agents, as well as methods for their fabrication and use, are provided. The subject **arrays** are characterized having at least two non-modified biopolymeric binding agents, e.g. proteins, nucleic acids, etc., bound to the hydrophilic surface of a spacer layer present on a planar surface of a solid support, where the spacer layer at least includes a self-assembled monolayer. The subject **arrays** find use in a variety of different binding assay applications. Also provided are kits including the subject **arrays**. Using a robotic **array** spotter, DNA PCR products were spotted onto a layer of self-assembled mercaptoundecanoic acid on a gold surface-coated glass substrate. After spotting, the slides were UV crosslinked and baked and prehybridized before hybridization with labeled probes.

L36 ANSWER 4 OF 16 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:46860 CAPLUS
TITLE: Influences of monomer structural elements in hydrophilic peptoids
AUTHOR(S): **Beausoleil, Eric**; Truong, Kiet T. V.; Kirshenbaum, Kent; **Zuckermann, Ronald N.**
CORPORATE SOURCE: Chiron Technologies, Chiron Corporation, Emeryville, CA, 94608-2916, USA
SOURCE: Innovation and Perspectives in Solid Phase Synthesis & Combinatorial Libraries: Peptides, Proteins and Nucleic Acids--Small Molecule Organic Chemistry Diversity, Collected Papers, International Symposium, 6th, York, United Kingdom, Aug. 31-Sept. 4, 1999 (2001), Meeting Date 1999, 239-242. Editor(s): Epton, Roger. Mayflower Scientific Ltd.: Kingswinford, UK. CODEN: 69CEGV; ISBN: 0-9515735-3-5
DOCUMENT TYPE: Conference
LANGUAGE: English
AB The synthesis of new classes of hydrophilic enantiopure submonomers that were incorporated into peptoid oligomers were analyzed using CD and evaluated for their propensities to form secondary structures. A series of different peptoid 5mers and 9mers was prepd. to evaluate the significance of the structural elements of the Nspe monomer. The peptoids prepd. using analogs of (L)-Ala-N-Alkylamide could be used as a general scaffold for generation of a variety of hydrophilic peptoids with a defined secondary structure.
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 5 OF 16 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-147218 [13] WPIDS
CROSS REFERENCE: 1996-393530 [39]; 1997-393702 [36]; 1998-457256 [39]; 1998-495982 [42]; 1999-204741 [17]; 2000-071650 [06]; 2001-225814 [14]; 2002-089133 [70]; 2002-105080 [71]
DOC. NO. NON-CPI: N2000-417837
DOC. NO. CPI: C2000-168574
TITLE: Biopolymeric composition for detecting analytes e.g. pathogens, proteins or enzymes, comprises biopolymeric material that changes color in presence of analyte.
DERWENT CLASS: A96 B04 D16 S03
INVENTOR(S): **CHARYCH, D H**; JONAS, U
PATENT ASSIGNEE(S): (REGC) UNIV CALIFORNIA
COUNTRY COUNT: 22
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9967423	A1	19991229	(200013)*	EN	175
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP					
AU 9947047	A	20000110	(200025)		
EP 1112377	A1	20010704	(200138)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9967423	A1	WO 1999-US14029	19990622
AU 9947047	A	AU 1999-47047	19990622
EP 1112377	A1	EP 1999-930522	19990622
		WO 1999-US14029	19990622

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9947047	A	Based on	WO 9967423
EP 1112377	A1	Based on	WO 9967423

PRIORITY APPLN. INFO: US 1999-90266 19990621; US 1998-90266P 19980622

AN 2000-147218 [13] WPIDS

CR 1996-393530 [39]; 1997-393702 [36]; 1998-457256 [39]; 1998-495982 [42]; 1999-204741 [17]; 2000-071650 [06]; 2001-225814 [14]; 2002-089133 [70]; 2002-105080 [71]

AB WO 9967423 A UPAB: 20020301

NOVELTY - Composition (A) comprising biopolymeric material (I) that changes color in presence of an analyte (II). (I) consists of many polymerized self-assembling monomers (III) and at least one nucleic acid ligand (IV).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a device containing at least one immobilized (I), and

(2) method for detecting (II) from its ability to cause a color change in (I).

USE - The method is used to detect nucleic acids, enzymes, pathogens (especially viruses, bacteria, parasites or fungi), drugs, receptor ligands, antigens, ions, proteins, hormones, blood components, antibodies or lectins, e.g. for diagnosis of pathogens or genetic diseases, but also more generally organic solvents (e.g. in pharmaceutical products, air or water samples) or other small organic molecules. It can also be used to identify enzyme inhibitors; to screen enzymes or other catalytic molecules for activity and in drug development (by detecting competitive inhibition of a natural binding event).

ADVANTAGE - (II) can be detected directly and rapidly, either with the naked eye (e.g. for home use) or instrumentally. The method can be made quantitative; is easily adapted to high throughput screening and vesicles based on (I) have excellent storage stability.

Dwg.0/50

L36 ANSWER 6 OF 16 WPIDS (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: 1999-204741 [17] WPIDS

CROSS REFERENCE: 1996-393530 [39]; 1997-393702 [36]; 1998-457256 [39]; 1998-495982 [42]; 2000-071650 [06]; 2000-147218 [11]; 2001-225814 [14]; 2002-089133 [70]; 2002-105080 [71]

DOC. NO. NON-CPI: N1999-150807

DOC. NO. CPI: C1999-059615

TITLE: New sol-gel biopolymeric matrices - are used for

direct detection of analytes, suitable for field work or home use, for solvents and pathogens.

DERWENT CLASS: A89 B04 D16 J04 S03
INVENTOR(S): **CHARYCH, D H**; SASAKI, D; YAMANAKA, S
PATENT ASSIGNEE(S): (REGC) UNIV CALIFORNIA; (SAND-N) SANDIA CORP
COUNTRY COUNT: 76
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9910743	A1	19990304	(199917)*	EN	78
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN					
AU 9892116	A	19990316	(199930)		
US 6022748	A	20000208	(200014)		
EP 1002234	A1	20000524	(200030)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9910743	A1	WO 1998-US17982	19980831
AU 9892116	A	AU 1998-92116	19980831
US 6022748	A	US 1997-920501	19970829
EP 1002234	A1	EP 1998-944612	19980831
		WO 1998-US17982	19980831

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9892116	A	Based on	WO 9910743
EP 1002234	A1	Based on	WO 9910743

PRIORITY APPLN. INFO: US 1997-920501 19970829
AN 1999-204741 [17] WPIDS
CR 1996-393530 [39]; 1997-393702 [36]; 1998-457256 [39]; 1998-495982 [42]; 2000-071650 [06]; 2000-147218 [11]; 2001-225814 [14]; 2002-089133 [70]; 2002-105080 [71]
AB WO 9910743 A UPAB: 20020301
NOVELTY - Composition comprising biopolymeric material encapsulated in a sol-gel glass. Also, its application to detection of analytes, by addition of analyte and a means of detection, exposing the biopolymer in glass to analyte to obtain a response, and detecting it.

DETAILED DESCRIPTION - Method for immobilising the biopolymeric material comprises: (a) providing a metal oxide, biopolymeric material, acid, and buffer; (b) sonicating metal oxide and acid to obtain a solution; (c) adding buffer; and (d) adding biopolymeric material to obtain an organic/inorganic solution; optionally also (e) applying the solution to a formation support; and (f) gelling, to obtain an organic/inorganic device.

USE - The device is used for direct detection of analytes, by

observation of colour changes which occur in the polymeric material in response to selective binding to their surface. The device can be made suitable for field work or home use, and may conveniently be in the form of a badge to be worn by the user. Detection of the analyte is normally by direct visual inspection; other means include use of spectrometry, optical fibres, quartz oscillators, electrode surfaces, and scintillation. The device can be linked to a signalling device to give warning of analyte presence. Either a single change in the device can be used to detect a single or related analytes, or an **array** assembled in the device, e.g. as a palette, for different analytes. A large variety of analytes can be detected in this way, under mild testing conditions; examples are volatile organic compounds (VOCs) or other small molecules, drugs, pathogens, bacteria, membrane receptors or fragments, enzymes and antibodies. Specific examples of pathogens include HIV, influenza, chlamydia, rheovirus, streptococci, salmonella, Neisseria meningitidis or gonorrhoeae, Plasmodium, Vibrio vulnificus, Sendai virus, mumps, Newcastle disease, and myxovirus. VOCs aree notably those harmful, with their detection ensuring safety in the workplace and reducing possible illness of personnel; also absence of trace amounts of VCOs in pharmaceuticals before packaging for dispatch confirmed. Other possibilities mentioned are characterisation of natural binding sites, screening of drugs, and, for colour changes dependent on pH or temperature, to detect these variables.

ADVANTAGE - The device is simple, requires no specialised and/or expensive equipment or even a power source, and can be made quite sensitive e.g. as a thin film reactive surface.

Dwg.0/14

L36 ANSWER 7 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 4

ACCESSION NUMBER: 1999:140826 CAPLUS
DOCUMENT NUMBER: 130:237850
TITLE: New submonomers for poly N-substituted glycines (peptoids)
AUTHOR(S): Uno, Tetsuo; **Beausoleil, Eric**; Goldsmith, Richard A.; Levine, Barry H.; **Zuckermann, Ronald N.**
CORPORATE SOURCE: Chiron Technologies, Chiron Corporation, Emeryville, CA, 94608-2916, USA
SOURCE: Tetrahedron Letters (1999), 40(8), 1475-1478
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Five protected submonomers for peptoid synthesis were prepd., i.e., Nin-BOC-tryptamine, O-t-butyltyramine, PMC-guanidino-propylamine, 6-amino-6-deoxy-D-galactopyranose diacetonide, and 5-amino-2,2-dimethyl-1,3-dioxane. The first three mimic natural amino acid side chains, i.e., tryptophan, tyrosine, and arginine, while the last two provide hydrophilic side chains. These submonomers were successfully used for prepn. of oligo-peptoids by the submonomer synthesis method.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 8 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 5

ACCESSION NUMBER: 1998:195046 CAPLUS
DOCUMENT NUMBER: 128:206169
TITLE: Apparatuses for solid-phase chemical synthesis involving **arrays** of modular reaction vessels
INVENTOR(S): **Zuckermann, Ronald**; Siegmund, Aaron C.; Spear, Kerry L.
PATENT ASSIGNEE(S): Chiron Corporation, USA
SOURCE: PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9810857	A1	19980319	WO 1997-US16343	19970911
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9744170	A1	19980402	AU 1997-44170	19970911
EP 949964	A1	19991020	EP 1997-942483	19970911
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001500426	T2	20010116	JP 1998-513963	19970911

PRIORITY APPLN. INFO.: US 1996-26002P P 19960912
WO 1997-US16343 W 19970911

AB An app. is provided for use in solid phase chem. synthesis methods such as the synthesis of polypeptides, peptoids, polynucleotides and other mols. synthesized by solid phase methods. The app. includes a plurality of reaction vessels arranged in a linear **array**, wherein the reaction vessels include modular valving means capable of being simultaneously actuated to drain or close each of the reaction vessels in the linear **array**. Also, in a plurality of parallel linear **arrays** of such vessels, the valving means of each vessel in a single linear **array** can be simultaneously actuated.

L36 ANSWER 9 OF 16 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:268416 CAPLUS
DOCUMENT NUMBER: 128:309781
TITLE: Inverse filtration apparatus and its use
INVENTOR(S): **Zuckermann, Ronald N.**; Chinn, Jason P.; Desai, Manoj C.; Jones, David C.
PATENT ASSIGNEE(S): Chiron Corp., USA
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9817384	A1	19980430	WO 1997-US19301	19971022
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				

PT, SE
AU 9850874 A1 19980515 AU 1998-50874 19971022
EP 934113 A1 19990811 EP 1997-913761 19971022
EP 934113 B1 20020403
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
JP 2001502600 T2 20010227 JP 1998-519656 19971022
AT 215399 E 20020415 AT 1997-913761 19971022
PRIORITY APPLN. INFO.: US 1996-29095P P 19961022
US 1997-56501P P 19970820
WO 1997-US19301 W 19971022

AB An inverse filtration head and an app. including the filtration head are provided for use in solid phase chem. synthesis methods, such as in the synthesis of polypeptides, peptoids, polynucleotides and other mols. synthesized by solid phase techniques. The inverse filtration head includes a plurality of influent/effluent conduit pairs arranged in a substantially parallel **array**. The conduit pairs are used to simultaneously aspirate and/or wash and fill a plurality of reaction vessels arranged in a corresponding order **array**. An filtration device includes an inverse filtration head and a control panel which allows actuation of assocd. gas, fluids and vacuum delivery means for delivery to and from the filtration head. An inverse filtration app. is provided which includes the inverse filtration device, a valve box and assocd. fluid, gas and vacuum sources (132).

L36 ANSWER 10 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1999:134279 BIOSIS
DOCUMENT NUMBER: PREV199900134279
TITLE: New submonomers for poly N-substituted glycines (peptoids.
AUTHOR(S): Uno, Tetsuo; **Beausoleil, Eric**; Goldsmith, Richard A.; Levine, Barry H.; **Zuckermann, Ronald N. (1)**
CORPORATE SOURCE: (1) Chiron Technol., Chiron Corp., 4560 Horton St., Emeryville, CA 94608-2916 USA
SOURCE: Tetrahedron Letters, (Feb. 19, 1998) Vol. 40, No. 8, pp. 1475-1478.
ISSN: 0040-4039.
DOCUMENT TYPE: Article
LANGUAGE: English

AB Five protected submonomers for peptoid synthesis were prepared, including Nin-BOC-tryptamine, O-t-butyl tyramine, PMC-guanidino-propylamine, 6-amino-6-deoxy-D-galactopyranose diacetonide, and 5-amino-2,2-dimethyl-1,3-dioxane. The first three min-tic natural aminoacid sidechains i.e. tryptophan, tyrosine, and arginine, while the last two provide hydrophilic sidechains. These submonomers were successfully used for preparation of oligo-peptoids by the submonomer synthesis method.

L36 ANSWER 11 OF 16 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:95640 CAPLUS
DOCUMENT NUMBER: 124:242266
TITLE: Carbohydrates in an Acidic Multivalent Assembly: Nanomolar P-Selectin Inhibitors
AUTHOR(S): Spevak, Wayne; Foxall, Carrol; **Charych, Deborah H.**; Dasgupta, Falguni; Nagy, Jon O.
CORPORATE SOURCE: Center for Advanced Materials, Lawrence Berkeley

National Laboratories, Berkeley, CA, 94720, USA
SOURCE: J. Med. Chem. (1996), 39(5), 1018-20
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The adhesion of circulating neutrophils to endothelial cells is one of the important events occurring in the process of inflammation. The presentation of carbohydrates to the endothelial lectins (E and P selectins) plays a crucial role in the recognition of the circulating cells. Polymd. liposomes that present carbohydrate analogs of sialyl Lewis can model cell surfaces and inhibit P-selectin chimera binding to HL-60 cells, with low nanomolar potency. Both the surface d. of carbohydrate groups and the presence of acid groups on the liposome surface have a great effect on the potency of inhibition. Simple carbohydrates such as lactose, also show nanomolar potency on P-selectin inhibition when presented in a multivalent **array** on an acidic, polymd. liposome. These types of assemblies offer a novel way of inhibiting selectin-cell recognition and may prove to be important new therapeutic agents.

L36 ANSWER 12 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 6
ACCESSION NUMBER: 1995:719731 CAPLUS
DOCUMENT NUMBER: 123:105471
TITLE: Total alignment of calcite at acidic polydiacetylene films: cooperativity at the organic-inorganic interface
AUTHOR(S): Berman, Amir; Ahn, Dong June; Lio, Anna; Salmeron, Miquel; Reichert, Anke; **Charych, Deborah**
CORPORATE SOURCE: Cent. Adv. Mater., Lawrence Berkeley Lab., Berkeley, CA, 94720, USA
SOURCE: Science (Washington, D. C.) (1995), 269(5223), 515-18
CODEN: SCIEAS; ISSN: 0036-8075
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Biol. matrixes can direct the abs. alignment of inorg. crystals such as calcite. Cooperative effects at an org.-inorg. interface resulted in similar co-alignment of calcite at polymeric Langmuir-Schaefer films of 10,12-pentacosadiynoic acid (p-PDA). The films nucleated calcite at the (012) face, and the crystals were co-aligned with respect to the polymer's conjugated backbone. At the same time, the p-PDA alkyl side chains reorganized to optimize the stereochem. fit to the calcite structure, as visualized by changes in the optical spectrum of the polymer. These results indicate the kinds of interactions that may occur in biol. systems where large **arrays** of crystals are co-aligned.

L36 ANSWER 13 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 7
ACCESSION NUMBER: 1992:449222 CAPLUS
DOCUMENT NUMBER: 117:49222
TITLE: Identification of highest-affinity ligands by affinity selection from equimolar peptide mixtures generated by robotic synthesis
AUTHOR(S): **Zuckermann, Ronald N.**; Kerr, Janice M.; Siani, Michael A.; Banville, Steven C.; Santi, Daniel V.

CORPORATE SOURCE: Chiron Corp., Emeryville, CA, 94608, USA
SOURCE: Proc. Natl. Acad. Sci. U. S. A. (1992), 89(10), 4505-9
CODEN: PNASA6; ISSN: 0027-8424
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A fully automated peptide synthesizer has been constructed that is capable of the simultaneous synthesis of up to 36 individual peptides and the synthesis of equimolar peptide mixts. The instrument consists of an **array** of reaction vessels, a series of solenoid valves to control liq. flow, and a Zymark robot to deliver solvents and reagents; all components are computer controlled and coordinated. Equimolar peptide mixts. are obtained by algorithms that automate the mixing and distribution of peptide-resin particles. This technol. was used to synthesize a library of 361 peptides, generated by randomizing two crit. binding residues of a 10-mer epitope known to bind an antihuman immunodeficiency virus gp120 monoclonal antibody. Each crit. residue was substituted with 19 amino acids consisting of all the natural amino acids except cysteine. The library was synthesized as 19 pools, each contg. 19 peptides. Each pool was screened in a soln.-phase competition ELISA assay. The 12 most inhibitory peptides in the library were isolated by a rapid affinity-selection method and were identified by mass spectrometry and amino acid anal. The binding properties of these 12 selected peptides were verified by synthesis and assay of the individual peptides. The two crit. residues investigated contribute independently to antibody binding.

L36 ANSWER 14 OF 16 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 8
ACCESSION NUMBER: 1993:148045 CAPLUS
DOCUMENT NUMBER: 118:148045
TITLE: Design, construction and application of a fully automated equimolar peptide mixture synthesizer
AUTHOR(S): **Zuckermann, Ronald N.**; Kerr, Janice M.; Siani, Michael A.; Banville, Steven C.
CORPORATE SOURCE: Chiron Corp., Emeryville, CA, USA
SOURCE: Int. J. Pept. Protein Res. (1992), 40(6), 497-506
CODEN: IJPPC3; ISSN: 0367-8377
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A fully automated peptide synthesizer has been constructed that is capable of the synthesis of equimolar peptide mixts. and the simultaneous synthesis of 36 individual peptides. The synthesizer was constructed from a workstation of novel design utilizing a Zymark robot arm. A Macintosh II computer coordinates the movements of the robotic arm, the switching of over 40 solenoid valves and the monitoring of sensors in the workstation. The robot hands are used to deliver solvents from pressurized spigot lines and to pipet amino acid solns. from reservoirs to an **array** of reaction vessels. Liq. dispensing, reagent mixing, and solvent removal are controlled from a multifunction I/O board in the computer. The design features of the synthesizer are presented, as well as the characterization of multiple individual peptides, a simple mixt. of 19 components, and a complex mixt. of 15,625 components.

L36 ANSWER 15 OF 16 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:255337 CAPLUS

DOCUMENT NUMBER: 118:255337
TITLE: Control of the zymate robot with an external computer. Construction of a multiple peptide synthesizer
AUTHOR(S): **Zuckermann, Ronald N.**; Siani, Michael A.; Banville, Steven C.
CORPORATE SOURCE: Chiron Corp., Emergyville, CA, 94608, USA
SOURCE: Lab. Rob. Autom. (1992), 4(4), 183-92
CODEN: LRAUEY; ISSN: 0895-7533
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A multiple peptide synthesizer has been constructed by integrating a Zymate robot arm and a peptide synthesis station of the authors' own design under the control of an Apple Macintosh II computer. The Macintosh software coordinates the movements of the Zymark robot arm, the switching of over 40 solenoid valves, and the monitoring the sensors. The robot arm is used to deliver solvent and reagents to an **array** of reaction vessels, and the Macintosh coordinates liq. flow via a series of solenoid valves. The Macinotsh was chosen because it permits a friendly user-interface and supports powerful programming languages. THINK C language has been used to conveniently accommodate peptide sequence, position, and quantity information in complex data structures which are not supported by the EasyLab environment. A powerful communication protocol between the Macintosh and the Zymark controller is described.

L36 ANSWER 16 OF 16 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:31716 CAPLUS
DOCUMENT NUMBER: 114:31716
TITLE: Lateral translational diffusion and electron transport in monolayer and bilayer assemblies of amphiphiles at interfaces
AUTHOR(S): **Charych, D. H.**; Goss, C. A.; Landau, E. M.; Majda, M.
CORPORATE SOURCE: Dep. Chem., Univ. California, Berkeley, CA, 94720, USA
SOURCE: Mol. Cryst. Liq. Cryst. (1990), 190, 95-110
CODEN: MCLCA5; ISSN: 0026-8941
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Two novel electrochem. methods of investigation of lateral processes in monolayer and bilayer assemblies are described. The first involves an interdigitated micro-electrode **array** consisting of fifty pairs of 50 nm thick, 800 nm long, and 4 .mu.m wide electrodes deposited on a glass surface. An amphiphilic bilayer consisting in part of the N-methyl-N'-octadecylbipyridyl mols. is self-assembled in the interelectrode gap. Translational diffusion of the electroactive amphiphile depends on the charge in the head group region and on the fluidity of the assembly controlled by the overall oxidn. state of the octadecylbipyridyl. The second method involves 0.1 cm long, 50 nm wide gold micro-band electrodes positioned at the air/water interface and addressing surface monolayer of an octadecylferrocene amphiphile under controlled surface pressure conditions. Electrochem. measurements demonstrate that the lateral translational diffusion and the electron hopping involving ferrocene/ferrocenium sites are the two channels of the lateral charge transport.

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